

Escapement Goals for Pacific Salmon
in the Kodiak, Chignik, and Alaska Peninsula/Aleutian Islands
Areas of Alaska

By

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ABSTRACT

Fisheries for anadromous Pacific salmon *Oncorhynchus spp.* in Alaska are managed by the Alaska Department of Fish and Game (ADF&G) to achieve escapements for spawning in natal streams each year. Establishment of annual escapement goals for individual or aggregate populations of salmon is, therefore, of primary importance for both the continued productivity of salmon stocks as well as for their sustained utilization. In 2001 the Alaska Board of Fisheries (BOF) adopted the department's Escapement Goal Policy into regulation. This document has been prepared to describe the establishment of currently applicable escapement goals for stocks of five Pacific salmon species (chinook *O. tshawytscha*, sockeye *O. nerka*, coho *O. kisutch*, pink *O. gorbuscha*, and chum *O. keta* salmon) spawning in the Kodiak, Chignik, and Alaska Peninsula/Aleutian Islands areas of Alaska.

For areas within the Westward Region, escapement goals are reported for a total of 100 salmon stocks. Chinook, sockeye and coho salmon stocks are generally delineated by individual drainage. Pinks and chums are generally managed as aggregates of streams by district.

BACKGROUND

Fisheries for anadromous Pacific salmon *Oncorhynchus spp.* in Alaska are managed by the Alaska Department of Fish and Game (ADF&G) to achieve escapements for spawning in natal streams each year. The remainder, or surplus, is to be made available for harvest in subsistence, commercial, personal use, and recreational fisheries. Establishment of annual escapement goals for individual or aggregate populations of salmon is, therefore, of primary importance for both the continued productivity of salmon stocks as well as for their sustained utilization.

In 1992 the ADF&G implemented an Escapement Goal Policy (EGP) that formalized the approach used to manage salmon fisheries on the sustained yield principle. The EGP documented the concepts, criteria, and procedures for establishing and modifying escapement goals. In addition, the EGP established a process that facilitated public review of allocative issues associated with establishing and modifying escapement goals. In 2001 the Alaska Board of Fisheries (BOF) adopted a modified version of the department's EGP into regulation. This new policy, 5 AAC 39.223. POLICY FOR STATEWIDE SALMON ESCAPEMENT GOALS, identifies the department's responsibilities regarding escapement goals. The first responsibility of the department is to document existing salmon escapement goals for all salmon stocks that are currently managed for an escapement goal. This document has been prepared to describe the establishment of currently applicable escapement goals for stocks of five Pacific salmon species (chinook *O. tshawytscha*, sockeye *O. nerka*, coho *O. kisutch*, pink *O. gorbuscha*, and chum *O. keta* salmon) spawning in the Kodiak, Chignik, and Alaska Peninsula/Aleutian Islands areas of Alaska.

MANAGEMENT AREAS

This report covers three regulatory areas: Kodiak, Chignik, and the Alaska Peninsula/Aleutian Islands. These areas constitute salmon management Areas K, L, and M respectively, all within the Westward Region administered by the Division of Commercial Fisheries. For recreational fisheries, these same areas all lie within the Kodiak Sport Fish Management Area of the Southcentral Region administered by the Division of Sport Fish. Subsistence fisheries are managed roughly in accord with the more specific commercial management boundaries detailed below.

Kodiak (Area K)

For commercial salmon fishery management, the Kodiak area includes all waters of Alaska south of a line extending from Cape Douglas (58° 51.10' N lat.), west of 150° W long., north of 55° 30.00' N lat., and north and east of a line extending 135° southeast for three miles from a point near Kilokak Rocks at 57° 10.34' N lat., 156° 20.22' W long. (the longitude of the southern entrance of Imuya Bay), then due south (ADF&G 1999). These essentially are the waters surrounding and draining the Kodiak Island archipelago and the upper Alaska Peninsula between lower Cook Inlet and the Chignik area (Figure 1). Within the Kodiak commercial salmon fishery

management area, there are an estimated 440 rivers and streams that support some substantial numbers of spawning salmon (Wadle 2001).

Area K is divided into seven commercial fishing districts: the Afognak, Northwest Kodiak, Southwest Kodiak, Alitak Bay, Eastside Kodiak, Northeast Kodiak, and Mainland Districts. These are further subdivided into a number of sections, each of which is composed of a number of smaller statistical areas, including terminal or special harvest areas for enhanced or rehabilitated salmon stocks. For commercial salmon fisheries, legal gear in various districts or sections can consist of purse seines, hand purse seines, beach seines, or set gillnets.

Chignik (Area L)

The Chignik commercial salmon fishery management area includes all waters of Alaska adjacent to and draining the south side of the Alaska Peninsula bounded by a line extending 135° southeast for three miles from a point near Kilokak Rocks at 57° 10.34' N lat., 156° 20.22' W long. (the longitude of the southern entrance of Imuya Bay), then due south, and a line extending 135° southeast from Kupreanof Point at 55° 33.98' N lat., 159° 35.88' W long. (ADF&G 1999). This essentially includes waters of the middle section of the southern side of the Alaska Peninsula centered upon Chignik Bay, including those surrounding offshore islands (Figure 2), within which there are over 100 rivers and streams that support salmon spawning (Pappas et al. 2001).

Area L is divided into five commercial fishing districts: the Eastern, Central, Chignik Bay, Western, and Perryville Districts. These are further subdivided into sections and smaller statistical areas. For commercial fisheries, legal gear consists only of purse seines and hand purse seines.

Alaska Peninsula/Aleutian Islands (Area M)

This combined regulatory area is usually split into separate components: the Alaska Peninsula commercial salmon fishery management area (Figure 2) and the Aleutian Islands management area.

The Alaska Peninsula area includes all waters of Alaska from Cape Menshikof to Cape Sarichef Light and from a line extending from Scotch Cap through the easternmost tip of Ugamak Island to a line extending 135° southeast from Kupreanof Point (55° 33.98' N lat., 159° 35.88' W long.; ADF&G 1998)

The area is divided into six commercial fishing districts: the Southeastern (comprising the Southeastern District Mainland and the Shumagin Islands), South Central, Southwestern, Unimak, Northwestern, and Northern Districts; commonly, aggregates of these districts are referred to as the South Peninsula and North Peninsula. These districts are further subdivided into sections and smaller statistical areas.

The Aleutian Islands area includes the waters of Alaska in the Aleutian Islands west of Cape Sarichef Light and west of a line extending from Scotch Cap through the easternmost tip of Ugamak Island (ADF&G 1998).

Parts of the Aleutian Islands area are separated into four commercial fishing districts: the Akutan, Unalaska, Umnak, and Adak Districts. There is little commercial salmon fishing in the area and of the, at minimum, 458 known salmon streams (Holmes 1997) very few are consistently monitored for escapement.

For commercial fisheries, legal gear in various districts or sections of the Alaska Peninsula area can consist of purse seine, hand purse seine, drift gillnet, or set gillnet. In the Aleutian Islands legal gear consists of purse seines, hand purse seines, and beach seines.

METHODS

Escapement goals are generally specified by salmon stock following the statutory definition (A.S. 16.05.940) of fish stock as a species, subspecies, geographic grouping or other category of fish manageable as a unit. Past management practices in the Westward Region have resulted in a number of types of salmon stock or population specifications, generally delimited by species, area of spawning (e.g., stream, drainage, or district) and, in some cases, timing of adult migration (e.g., early and late run). These stock designations correspond with the more recent and detailed definition of salmon stock found in 5 AAC 39.222. POLICY FOR THE MANAGEMENT OF SUSTAINABLE SALMON FISHERIES (SSFP).

Almost all of the salmon escapement goals have been specified in previous area management or research reports, even though for many there is little stated rationale. In addition, there are a number which are specified here for the first time, based upon input and long-term use by area managers; others are slightly altered here from previously published values, based upon more recent analyses or current usage by area management biologists. There are also a number of goals previously reported for some systems, generally very minor systems, for which a rationale had not been originally presented and upon which the current management program does not rely; these goals are not reported here because they are no longer considered valid.

To date, our guidelines for considering whether or not a specific escapement goal has proven valid for management in the Westward Region are: (1) has the department been able to reliably estimate or index the salmon escapement level over a number of years, (2) is there a reasonable rationale for how that escapement level will promote sustainable yield, and/or (3) is the stock, or an associated fishery, actively managed to attain the escapement goal.

Escapement goals identified in this document are classified by the definitions presented in the SSFP; pertinent portions of those definitions are as follows:

- ◆ Biological escapement goal (BEG): the escapement that provides the greatest potential for maximum sustained yield (MSY);

- ◆ Sustainable escapement goal (SEG): a level of escapement, indicated by an index or an escapement estimate, that is known to provide for sustained yield over a 5 to 10 year period, used in situations where a BEG cannot be estimated due to the absence of a stock specific catch estimate;
- ◆ Sustained escapement threshold (SET): a threshold level of escapement, below which the ability of the salmon stock to sustain itself is jeopardized; and
- ◆ Optimal escapement goal (OEG): a specific management objective for salmon escapement that considers biological and allocative factors and may differ from the SEG or BEG; an OEG will be sustainable and may be expressed as a range with the lower bound above the level of SET, and will be adopted as a regulation by the BOF.

There are no explicitly defined *inriver goals* or *action points* established by the BOF regulatory management plans within the Westward Region. There is, however, one OEG established by the BOF, for the early run of sockeye salmon to Upper Station on Kodiak Island; this was created to sustain the run but also to allow full exploitation of the larger contemporaneous run of sockeye to nearby Frazer Lake.

There are also a few cases where the department has historically managed for objectives in addition to the escapement goal, such as for assured spawning escapement in addition to anticipated inriver sport harvest; those objectives are identified here for pertinent stocks.

In addition, there are a variety of inseason escapement objectives, comprising portions of annual escapement goals expected to be achieved by certain dates within the season, that are frequently used by ADF&G to manage commercial and sport fisheries. These interim objectives are used to assure attainment of the annual escapement goal plus to maintain a distribution of that escapement over the course of the season. These fairly standard inseason objectives, or similarly constructed timing curves, for each stock are not reported here.

Escapement goals within the present report have been set using a variety of procedures: 1) estimates of available spawning and rearing area, 2) the average annual escapement obtained during a specific period of years, 3) average number of returning adults produced by numbers of spawning salmon, and 4) estimates from spawner-recruitment analysis. These escapement goals are usually described as a range of values, with the upper and lower limits of the range consistent with sustained yield estimates and based on inherent variability in production. For some stocks, existing escapement goal ranges represent an acceptable low and high escapement interval about a point escapement goal. For other stocks, the range itself is the escapement goal.

Salmon escapement enumeration in the Westward Region is conducted by some type of visual count such as from aircraft overflights, foot surveys, or weir operations (including the use of video cameras); hydroacoustic (sonar) systems are not currently in routine use. The specific methods used to enumerate escapement are documented for each stock listed in this report.

For the Kodiak area, primary sources for the original documentation of salmon escapement goals, and also a history of weir projects, include Barrett et al. (1990), Malloy and Prokopowich (1992),

Schwarz (1993), Prokopowich (1998), Brodie (2001), and Wadle (2001); information on chinook salmon is summarized in Schwarz and Clapsadl (2000) and Clapsadl and Fleischman (*in press*).

For the Chignik area, primary sources for the original documentation of salmon escapement goals, and also a history of weir projects, include Narver (1966), Dahlberg (1968), Pedersen (1969), and McCullough (2001a); information on chinook salmon is summarized in Schwarz and Clapsadl (2000) and Clapsadl and Fleischman (*in press*).

For the Alaska Peninsula, primary sources for the original documentation of salmon escapement goals, and also a history of weir projects, include McCullough (2001a), McCullough (2001b), Shaul et al. (2001), and computer databases maintained by area management staff.

RESULTS

For areas within the Westward Region, escapement goals are reported for a total of 100 salmon stocks. Chinook, sockeye and coho salmon stocks are generally delineated by individual drainage. Pinks and chums are generally managed as aggregates of streams by district or section; in the table below, numbers in parentheses indicate the number of individual index streams from which the district or section-wide escapement goals for pinks and chums are compiled:

	<u>Chinook</u>	<u>Sockeye</u>	<u>Coho</u>	<u>Pink</u>	<u>Chum</u>	<u>Total</u>
Kodiak	2	15	16	7 (47)	6 (52)	46
Chignik	1	2	0	5 (49)	5 (42)	13
Pen/AI	3	17	7	7 (165)	7 (136)	41
Total	6	34	23	19 (261)	18 (230)	100

Escapement goals established for all areas within the Westward Region are summarized in Tables 1-5 for chinook, sockeye, coho, pink, and chum salmon, respectively. For the Kodiak area individual escapement goals for the five species are described in detail in Appendices A through E; for the Chignik area, in Appendices F through J; and for the Alaska Peninsula/Aleutian Islands, in Appendices K through O.

Chinook Salmon

Table 1 lists the various escapement goals for chinook, or king, salmon throughout the region. There are only a few substantial chinook stocks in the region and, for the Kodiak and Chignik management areas, the escapement for each of these is monitored by a weir.

Kodiak

Appendix A includes descriptions of established escapement goals for two chinook stocks in Area K; both are monitored by weirs established mainly to account for sockeye salmon escapement.

Chignik

Appendix F includes a description of an established escapement goal for one chinook stock in Area L; it is monitored by a weir established mainly to account for sockeye salmon escapement.

Alaska Peninsula/Aleutian Islands

Appendix K includes descriptions of established escapement goals for three chinook stocks in Area M, all of which occur along the North Peninsula. Escapements of these chinook salmon are monitored by aerial survey. There are no spawning stocks of chinook salmon documented for the South Peninsula or Aleutian Islands.

Sockeye Salmon

Table 2 lists the various escapement goals for sockeye, or red, salmon throughout the region. Sockeye salmon are the most sought after commercial species in the region, by virtue of their relatively high exvessel value and appreciable annual yield.

Kodiak

Appendix B includes descriptions of established escapement goals for 15 sockeye stocks in Area K, 12 of which, are currently monitored at weirs. Seven of these twelve stocks directly affect the daily management of associated fisheries; all seven of these systems currently have weirs. The remaining three systems are monitored via aerial survey.

Chignik

Appendix G includes descriptions of established escapement goals for two sockeye stocks in Area L, both of which are currently monitored at the Chignik River weir with underwater video cameras.

Alaska Peninsula/Aleutian Islands

Appendix L includes descriptions of established escapement goals for 17 sockeye stocks in Area M, 4 of which occur along the South Peninsula, 12 along the North Peninsula, and 1 on Unalaska Island. Twelve of these stocks directly affect the daily management of associated fisheries; five of these systems currently have weirs.

Coho Salmon

Table 3 lists the various escapement goals for coho, or silver, salmon throughout the region. Coho salmon are sometimes valuable in commercial fisheries. However, because of their generally later migration timing and due to their ubiquitous distribution, only a relatively small number of stocks' escapements are enumerated, all by aerial survey.

Kodiak

Appendix C includes descriptions of established escapement goals for 16 coho stocks in Area K, 11 of which, including the major producers, are currently monitored at weirs primarily established to enumerate sockeye escapements. The remaining, mostly minor stocks, are monitored via aerial survey.

Chignik

Appendix H describes the lack of any escapement goals for coho salmon in Area L. Aerial surveys for monitoring indications of escapement are conducted on a number of streams in the area, usually in conjunction with surveys for pink and chum salmon, as time, budgets, and late-season weather permits.

Alaska Peninsula/Aleutian Islands

Appendix M includes descriptions of established escapement goals for seven coho stocks in Area M, one of which occurs on the South Peninsula and the remaining six on the North Peninsula; no coho salmon escapement goals have been specified for the Aleutian Islands.

Pink Salmon

Table 4 lists the various escapement goals for pink, or humpback, salmon throughout the region. Pinks are generally a high volume species in commercial fisheries and spawn in hundreds of streams along the coast. Enumeration of escapements is conducted by aerial survey of particular streams that are repeatable from year to year and which are considered an acceptable index of escapements on a wide area basis. Escapement goals are established on a district or section-wide basis, as the sum of a number of index counts, due to the variability of individual runs and the impossibility of managing fisheries consistently on a stream-by-stream basis.

Kodiak

Appendix D includes descriptions of established escapement goals for pink salmon in seven districts in Area K; these district goals comprise the respective sums of aerial survey goals for 47 individual index streams.

Chignik

Appendix I includes descriptions of established escapement goals for pink salmon in five districts in Area L; these district goals comprise the respective sums of aerial survey goals for 49 individual index streams.

Alaska Peninsula/Aleutian Islands

Appendix N includes descriptions of established escapement goals for pink salmon in seven districts in Area M. These district goals comprise the respective sums of aerial survey goals for 165

individual index streams. All but five of the index streams are located along the South Peninsula or on Unalaska Island.

Chum Salmon

Table 5 lists the various escapement goals for chum, or dog, salmon throughout the region. Chum salmon are also a relatively high volume, low price species in commercial fisheries and spawn in hundreds of streams along the coast. Similar to pink salmon, enumeration of escapements is conducted by aerial survey of particular streams that are repeatable from year to year and which are considered an acceptable index of escapements on a wide area basis. Escapement goals are established on a district or section-wide basis, as the sum of a number of index counts, due to the variability of individual runs and the impossibility of managing fisheries consistently on a stream-by-stream basis.

Kodiak

Appendix E includes descriptions of established escapement goals for chum salmon in six districts in Area K; these district goals comprise the respective sums of aerial survey goals for 52 individual index streams.

Chignik

Appendix J includes descriptions of established escapement goals for chum salmon in five districts in Area L; these district goals comprise the respective sums of aerial survey goals for 42 individual index streams.

Alaska Peninsula/Aleutian Islands

Appendix O includes descriptions of established escapement goals for chum salmon in seven districts in Area M; these district goals comprise the respective sums of aerial survey goals for 136 individual index streams. Sixty-seven of these index streams are along the South Peninsula and 69 are along the North Peninsula; no chum salmon escapement goals have been established for the Aleutian Islands.

DISCUSSION

The intent of this report has been to describe, briefly in one document, existing escapement goals for Pacific salmon stocks in the Kodiak, Chignik, and Alaska Peninsula/ Aleutian Islands areas. The setting and attainment of such annual escapement goals form the foundation of salmon fishery management in Alaska.

For the Westward Region, escapement goals for sockeye and chinook salmon have received the most rigorous development and attention, and are applied to the most site- and time-specific stock groupings. In some cases, spawner-recruit analyses and detailed run reconstructions are applied to spawning populations from specific drainages, or even portions of streams or

drainages, in an effort to achieve maximum sustainable yield. At the other extreme, goals for pink and chum salmon are generally based upon average aerial survey indices and are often applied to a district or management section rather than to each individual stream. For coho salmon, selected streams in some areas have been assigned escapement goals. However, due to the late season timing of runs in autumn, relative lack of exploitation, deteriorating weather conditions, and budget priorities, little of the annual escapement monitoring extends through the end of each annual return.

Long time series of data on annual escapements and total returns are generally needed to best estimate appropriate escapement goals, because production from similar escapement levels can vary due to wide ranges of environmental conditions, in both freshwater and marine life stages. Our ability to more accurately identify biological escapement goals will improve as new techniques increase the accuracy of annual escapement estimates themselves, improve the identification of individual stocks within mixed stock harvests, and enhance our assessment of the impact of various environmental factors on the growth and survival of Pacific salmon.

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Table 1. Chinook salmon escapement goals by spawning system, within each management area, for the Westward Region.

System (stock)		Escapement Goal		Enumeration Method
Name	Number	Lower	Upper	
KODIAK (Area K)				
Ayakulik	256-201	6,500	10,000	Weir
Karluk	255-101	4,500	8,000	Weir
CHIGNIK (Area L)				
Chignik	271-10-301	1,450	2,700	Weir
PENINSULA/ALEUTIANS (Area M)				
South Peninsula				
No spawning stocks reported				
North Peninsula				
Cinder River	318-20-06	1,000	2,000	Aerial survey
Meshik River	317-20-07	2,000	4,000	Aerial survey
Nelson River	313-30-03	3,200	6,400	Aerial survey
Aleutian Islands				
No spawning stocks reported				

Table 2. Sockeye salmon escapement goals by spawning system, within each management area, for the Westward Region.

Svstem (stock)		Escapement Goal		Enumeration Method
Name	Number	Lower	Upper	
KODIAK (Area K)				
Akalura	257-302	40,000	60,000	Weir
Ayakulik	256-201	200,000	300,000	Weir
Buskin	259-211	8,000	13,000	Weir
Frazer	257-403	140,000	200,000	Weir
Karluk	255-101			Weir
	Early	150,000	250,000	
	Late	400,000	550,000	
Little River	253-115	15,000	25,000	Aerial survey
Litnik	252-342	40,000	60,000	Weir
Malina	251-105	10,000	20,000	Weir
Pasagshak	259-411	1,000	5,000	Aerial survey
Pauls	251-831	20,000	40,000	Weir
Saltery	259-415	15,000	30,000	Weir
Uganik Lake	253-122	40,000	60,000	Aerial survey
Upper Station	257-304			Weir
	Early ²	50,000	75,000	
	Late	150,000	200,000	
CHIGNIK (Area L)				
Chignik	271-10-301			Weir
	Early	350,000	400,000	
	Late	200,000	250,000	
PENINSULA/ALEUTIANS (Area M)				
South Peninsula				
Orzinski Lake	281-31-03	15,000	20,000	Weir
Middle Lagoon (Morzhovoi Lake)	284-12-05	16,000	32,000	Aerial survey
Mortensens Lagoon	284-34-01	3,200	6,400	Aerial survey
Thin Point Lake	284-20-10	14,000	28,000	Aerial survey
North Peninsula				
Christianson Lagoon	311-30-08	25,000	50,000	Aerial survey
David's River	313-30-01			Aerial survey
	Late	6,400	12,800	
North Cr.	313-10-02	4,400	8,800	Aerial survey
Swanson Lagoon	311-50-02	8,000	16,000	Aerial survey

-Continued-

Table 2. (page 2 of 2)

System (stock)		Biological Escapement Goal		Enumeration
Name	Number	Lower	Upper	Method
<i>North Peninsula (Cont.)</i>				
Bear River/Lake	315-11-02			Weir
	Early	150,000	175,000	
	Late	50,000	75,000	
Cinder River	318-20-06	6,000	12,000	Aerial survey
Ilnik River	316-20-01	40,000	60,000	Weir
Meshik River	317-20-07	10,000	20,000	Aerial survey
Nelson River	313-30-03	100,000	150,000	Weir
Ocean River ^b	316-20-05	5,000	10,000	Aerial survey
Sandy River	315-12-01	40,000	60,000	Weir
<i>Aleutian Islands</i>				
McLees Lake	302-15-07	4,000	6,000	Aerial survey

^a Upper Station-Early has the only optimal escapement goal (25,000) in the Westward Region established by the Alaska Board of Fisheries.

^b Goal for Ocean River only applicable during years when it runs directly into the Bering Sea, rather than its normal course through Ilnik Lagoon.

Table 3. Coho salmon escapement goals by spawning system, within each management area, for the Westward Region.

System (stock)		Escapement Goal		Enumeration Method
Name	Number	Lower	Upper	
KODIAK (Area K)				
Akalura	257-302	1,500	3,500	Weir
American	259-231	300	400	Foot survey
Ayakulik	256-201	12,000	18,000	Weir
Bear Cr.	251-706	350	700	Weir
Big Bay	251-601	600	1,300	Weir
Buskin	259-211	6,000	9,000	Weir
Dog Salmon	257-403	3,500	5,500	Weir
Karluk	255-101	10,000	20,000	Weir
Litnik	252-342	3,500	8,000	Weir
Olds (Sid Olds)	259-242	450	675	Foot survey
Pasagshak	259-411	1,500	3,000	Aerial survey
Pauls	251-831	6,500	9,000	Weir
Portage (Perenosa)	251-825	2,000	3,500	Aerial survey
Rosalyn	259-251	600	1,200	Foot survey
Saltery	259-415	3,000	5,000	Weir
Upper Station	257-304	3,500	5,500	Weir
CHIGNIK (Area L)				
No escapement goals established				
PENINSULA/ALEUTIANS (Area M)				
South Peninsula				
Thin Point Lake	284-75-10	3,000	6,000	Aerial survey
North Peninsula				
Cinder River	318-20-06	3,000	6,000	Aerial survey
Ilnik River	316-22-01	10,000	19,000	Aerial survey
Meshik River	317-20-07	16,000	32,000	Aerial survey
Mud Creek	318-20-04	6,000	12,000	Aerial survey
Nelson River	313-30-03	18,000	25,000	Aerial survey
Ocean River	316-22-05	6,000	13,000	Aerial survey
Aleutian Islands				
No escapement goals established				

Table 4. Pink salmon escapement goals by district, within each management area, for the Westward Region.

	Escapement Goal				Enumeration Method
	Even Year		Odd Year		
	Lower	Upper	Lower	Upper	
KODIAK (Area K)					
Afognak District	145,000	435,000	80,000	240,000	Aerial survey
Alitak Bay District	162,000	486,000	212,000	636,000	Aerial survey
Eastside Kodiak District	150,000	450,000	140,000	420,000	Aerial survey
Mainland District	256,000	768,000	215,000	645,000	Aerial survey
N.E. Kodiak District	120,000	360,000	110,000	330,000	Aerial survey
N.W. Kodiak District	315,000	945,000	220,000	660,000	Aerial survey
S.W. Kodiak District	1,250,000	2,550,000	30,000	90,000	Aerial survey
CHIGNIK (Area L)					
Central District	119,500	n/a	119,500	n/a	Aerial survey
Chignik Bay District	6,500	n/a	6,500	n/a	Aerial survey
Eastern District	488,000	n/a	488,000	n/a	Aerial survey
Perryville District	104,000	n/a	104,000	n/a	Aerial survey
Western District	61,500	n/a	61,500	n/a	Aerial survey
PENINSULA/ALEUTIANS (Area M)					
<i>South Peninsula</i>					
Shumagin Islands	137,000	274,000	137,000	274,000	Aerial survey
South Central District	687,200	1,374,400	687,200	1,374,400	Aerial survey
Southeastern District Mainland	425,600	851,300	425,600	851,300	Aerial survey
Southwestern District	563,600	1,127,200	378,000	756,000	Aerial survey
Unimak District	51,200	102,400	10,000	20,000	Aerial survey
<i>North Peninsula</i>					
Northwestern District (Bechevin Bay)	33,200	66,400	2,400	4,800	Aerial survey
Northern District	No escapement goals established				
<i>Aleutian Islands</i>					
Unalaska District	368,000	736,000	91,000	182,000	Aerial survey

Table 5. Chum salmon escapement goals by district, within each management area, for the Westward Region.

	Escapement Goal		Enumeration
	Lower	Upper	Method
KODIAK (Area K)			
Alitak Bay District	26,000	78,000	Aerial survey
Eastside Kodiak District	35,000	105,000	Aerial survey
Mainland District	133,000	399,000	Aerial survey
N.E. Kodiak District	8,000	24,000	Aerial survey
N.W. Kodiak District	46,000	138,000	Aerial survey
S.W. Kodiak District	25,000	75,000	Aerial survey
CHIGNIK (Area L)			
Central District	39,500	n/a	Aerial survey
Chignik Bay District	2,000	n/a	Aerial survey
Eastern District	93,700	n/a	Aerial survey
Perryville District	59,000	n/a	Aerial survey
Western District	12,500	n/a	Aerial survey
PENINSULA/ALEUTIANS (Area M)			
South Peninsula			
Shumagin Islands	7,600	15,200	Aerial survey
South Central District	89,800	179,600	Aerial survey
Southeastern District Mainland	98,800	197,600	Aerial survey
Southwestern District	133,400	266,800	Aerial survey
Unimak District	800	1,600	Aerial survey
North Peninsula			
Northwestern District	223,600	447,201	Aerial survey
Northern District	119,600	239,200	Aerial survey
Aleutian Islands			
No escapement goals established			

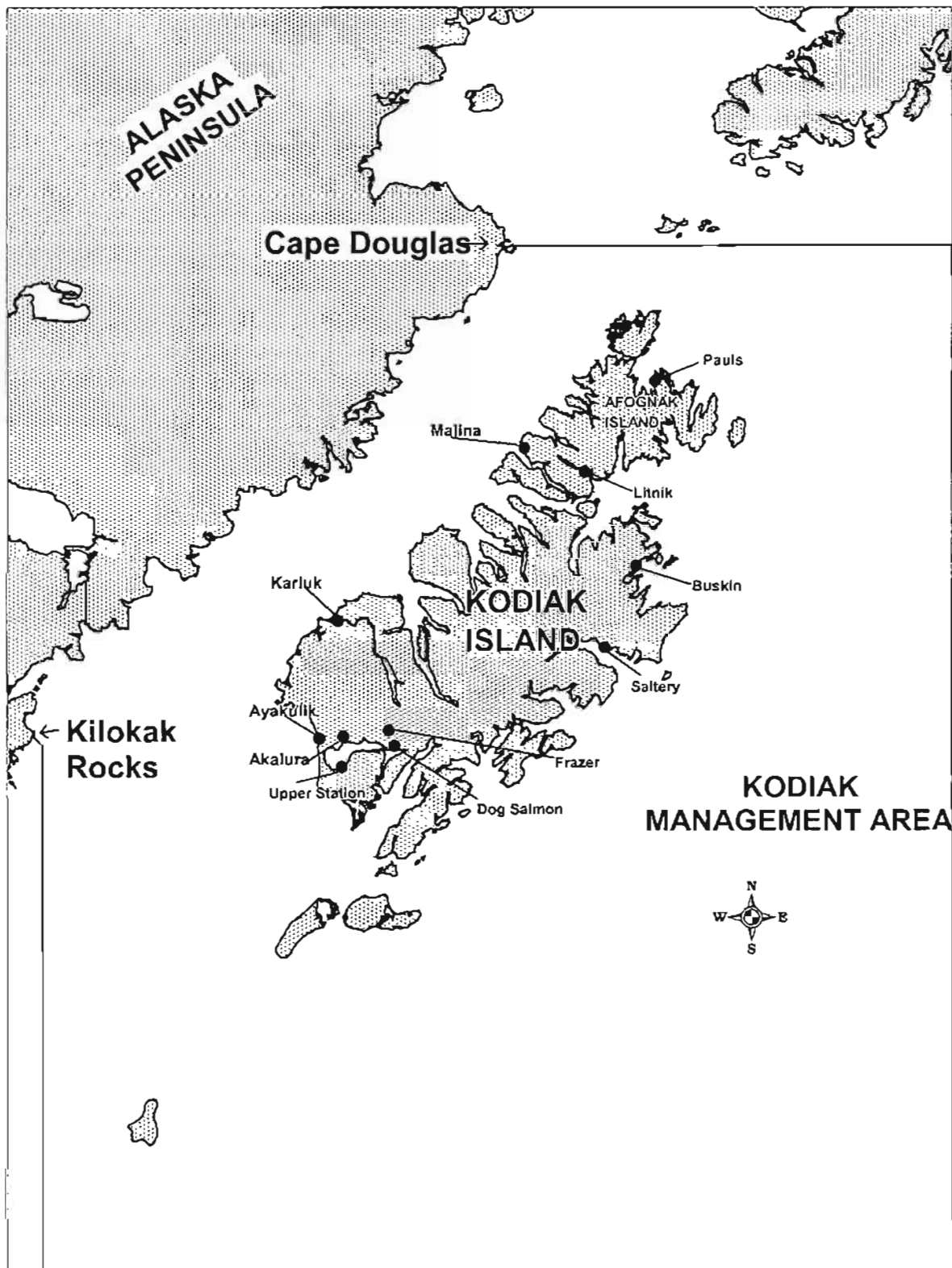


Figure 1. Map showing the location of weir projects for enumerating salmon escapement in the Kodiak management area (Area K).

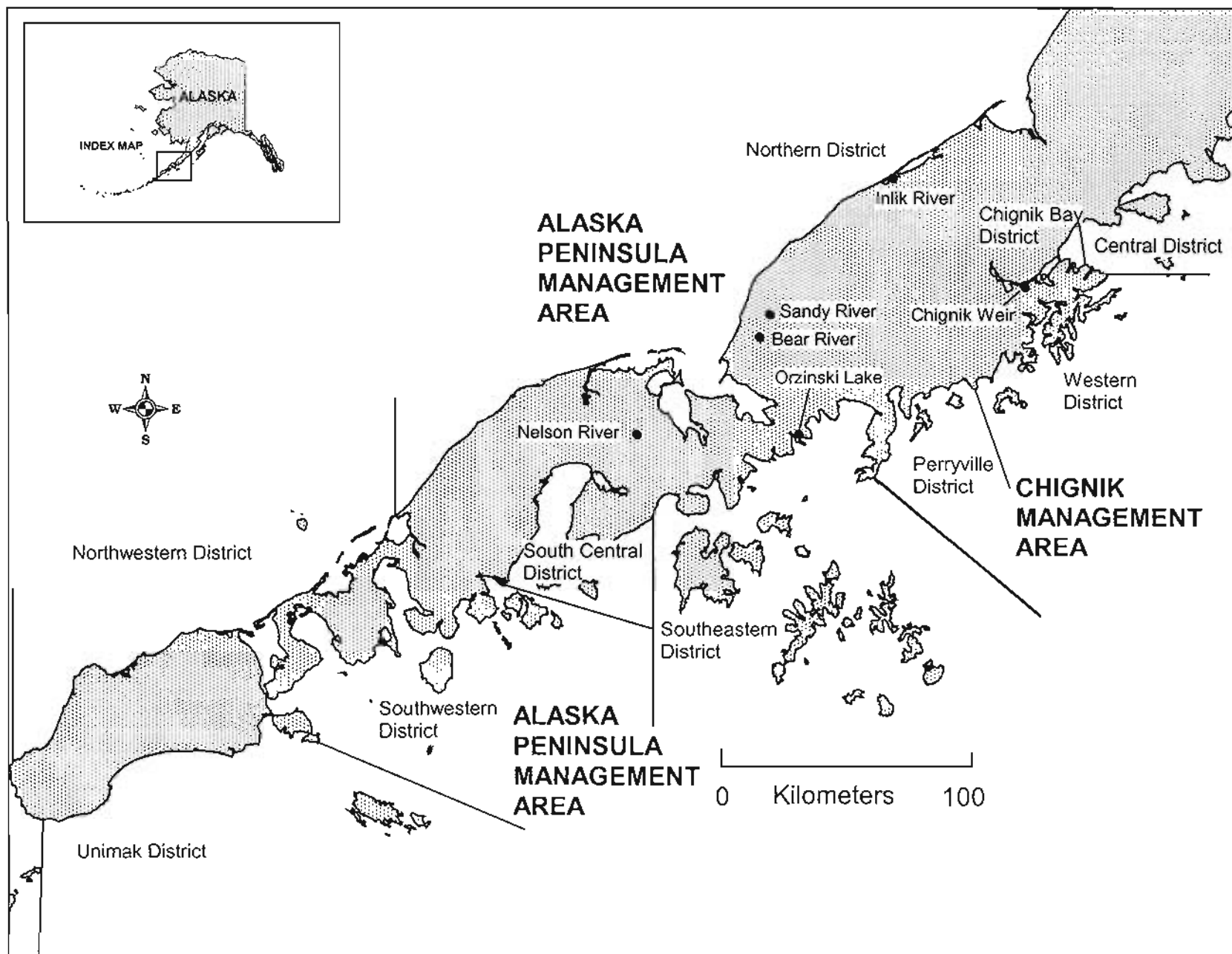


Figure 2. Map showing the salmon fishing districts and weir locations within the Chignik management area (Area L) and Alaska Peninsula management area (portion of Area M).

APPENDIX

Appendix A.1. Chinook salmon escapement goal summary for Ayakulik River.

Regulatory Area: Kodiak (Area K) – Southwest District, Inner Ayakulik Section

Stock Unit: Ayakulik River

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Commercial sport; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 6,500 to 10,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Weir counts

History of Goal: Escapement goals were originally set based on average historical escapements that were continuing to provide harvestable surpluses. From 1987 through 1991 the Ayakulik River experienced record chinook returns. These returns were generated from the 1981 through 1986 chinook escapements, which averaged 8,000. In 1989 the FWS produced a report that stated that the available chinook spawning habitat on the Ayakulik would accommodate 7,600 spawners. The recent 10-year average (1992-2001) chinook salmon escapement through the weir is 13,000 fish.

While historical escapement data indicate that the current escapement goal provides for sustained yield, spawner-recruit data have not been analyzed to estimate S_{MSY} . The Division of Sport Fish (SF) is currently reviewing Ayakulik escapement and harvest data in an attempt to establish a BEG in accordance with the EGP and SSFP.

Although not specified by the Alaska Board of Fisheries, the sport fishery is generally restricted to ensure that a minimum of 6,500 spawning chinook can be assured.

Appendix A.2. Chinook salmon escapement goal summary for Karluk River.

Regulatory Area: Kodiak (Area K) – Southwest District, Inner Karluk Section

Stock Unit: Karluk River

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Commercial sport; and Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 4,500 to 8,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Weir counts

History of Goal: Escapement goals were originally set based on average historical escapements that were continuing to provide harvestable surpluses. From 1987-1996 chinook escapement through the weir ranged from 7,930 to 14,442 and averaged 11,852, whereas from 1976-1986 those escapements averaged just over 7,621 fish. In 1988 through 1991 Karluk experienced record chinook salmon returns. These record returns were produced by the 1982-1986 escapements which averaged 7,000 chinook. The recent 10-year average (1992-2001) chinook salmon escapement through the weir is about 11,000 fish.

Initial indications are that the current escapement goal provides for sustained yield. SF is currently reviewing Karluk chinook escapement and harvest data in an attempt to establish a BEG in accordance with the EGP and SSFP.

Although not specified by the Alaska Board of Fisheries, the sport fishery is generally restricted to ensure that a minimum of 4,500 spawning chinook can be assured.

Appendix B.1. Sockeye salmon escapement goal summary for Akalura Lake.

Regulatory Area: Kodiak (Area K) – Alitak Bay District, Inner Akalura Section

Stock Unit: Akalura Lake

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 40,000 to 60,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Weir counts, aerial survey

History of Goal: Previous to 1988 there were no published escapement goals for this system.

A weir has been operated on Akalura Creek, below the lake, on a fairly regular basis for various periods of time since 1923. The escapement goal for this system is founded upon historical escapements that produced larger than average runs and, to a lesser extent, spawning habitat evaluations.

In 1988 the escapement goal was split into a 10,000 to 15,000 portion for an early run (through July 15) and 30,000 to 45,000 for a late run. Review of escapement timing curves from 1975 to present, however, indicated no substantial escapement before mid-July. Currently, while a few thousand fish may enter the system early in the season, the 40,000 to 60,000 goal is applied to the season as a whole.

Akalura sockeye salmon are primarily harvested in the Alitak Bay District (ABD). Due to the mixed stock nature of this fishery, stock specific catch data are not available for this system and development of a BEG is not possible. While historical escapement data indicate that the current SEG provides for sustained yield, there is some consideration that the goal may be too high. It is the intent of the department to review the existing SEG for consistency with the EGP and SSFP.

Appendix B.2. Sockeye salmon escapement goal summary for Ayakulik River (Red Lake).

Regulatory Area: Kodiak (Area K) – Southwest Kodiak District, Inner Ayakulik Section

Stock Unit: Ayakulik River/Red Lake

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 200,000 to 300,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Weir counts

History of Goal: Escapement goals prior to 1978 were not published by the department.

From 1978-1982, the Ayakulik sockeye salmon run was divided into early and late components with minimum escapement goals defined as 100,000 for June and 100,000 fish for July/August. These goals were predicated upon observed spawning habitat utilization by different run segments, historical observed escapements and runs along with recommendations from previous fishery managers. An interim escapement goal of 30,000 sockeye salmon by June 12 was employed for the early run, which would have prompted a fishery opening on June 14.

From 1983-1987, minimum escapement goals for the early and late runs remained at 100,000 for June and 100,000 for July/August; however, desired escapement goals of 150,000 for each run segment were published for the first time in 1983 (200,000 to 300,000 total).

In 1988, escapement goals were changed to reflect minimum and desired goals for the early and late components separately: early run 160,000 to 220,000; late run 40,000 to 80,000 fish. The early and late runs were distinguished by the date of July 15, after which the late run was assumed to dominate the escapement. Based upon more recent analysis of run timing information, there are no apparent early and late-run segments of the Ayakulik sockeye salmon run, and the current escapement goal is 200,000 to 300,000 fish.

While historical escapement data indicate that the current escapement goal provides for sustained yield, spawner-recruit data have not yet been analyzed to estimate S_{MSY} . The Division of Commercial Fisheries (CF) is currently reviewing Ayakulik sockeye escapement and harvest data to establish a BEG in accordance with the EGP and SSFP.

Appendix B.3. Sockeye salmon escapement goal summary for Buskin Lake.

Regulatory Area: Kodiak (Area K) – Northeast Kodiak District, Buskin River Section

Stock Unit: Buskin River/Lake

Primary Management Division: Commercial Fisheries and Sport Fish

Primary Fisheries: Commercial; Commercial sport; Sport; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 8,000 to 13,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: Although not established by the Alaska Board of Fisheries, the sport fishery will be restricted to ensure at least 8,000 sockeye enter Buskin Lake.

Escapement Enumeration Method: Weir counts

History of Goal: From 1985-1989 the Buskin weir was located 1 mile upstream of the ocean on the Buskin River. During these years escapements through the weir ranged from 9,000 to 18,000 sockeye with an average of 14,000. Based on this, desired escapement levels through the weir were set at 10,000 to 15,000 in 1990.

Once sockeye passed through the weir they were subjected to a sport fish removal. The average sport fish removal was estimated to be 2,300 sockeye for the entire river, probably one-half of which were harvested after the fish passed through the weir. Also, about 1,000 of the sockeye salmon that passed through the weir did not enter Buskin Lake, but entered two small tributary lakes (Louise and Genevieve). Due to the sport fish removal above the weir site (average = 1,000) and fish entering tributary lakes (average = 1,000), the actual number of sockeye entering Buskin Lake was probably about 2,000 less than were actually counted through the weir. Based on this, in 1996, the escapement goal for Buskin River was set at 8,000 to 13,000 sockeye salmon in order to maintain escapements similar to historical levels.

Appendix B.4. Sockeye salmon escapement goal summary for Frazer Lake.

Regulatory Area: Kodiak (Area K) – Alitak Bay District, Dog Salmon Flats Section

Stock Unit: Dog Salmon River/Frazer Lake

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Commercial sport; Subsistence

Biological Escapement Goal: 140,000 to 200,000

Sustainable Escapement Goal: None specified

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Weir counts

History of Goal: Escapement goals prior to 1978 were not published.

Sockeye salmon were introduced into the previously barren Frazer Lake from 1951 through 1971. A fish pass was constructed in 1962 to allow sockeye salmon to migrate around the barrier falls and into the lake. Research conducted from the mid-1960s to late 1970s, indicated a potential optimum escapement of 365,000 to 400,000 spawning sockeye salmon based on estimates of rearing capacity and available spawning habitat. However, the Frazer run was newly established and it was uncertain whether all of the spawning habitat would be utilized. As a result, the escapement goal was set at 175,000 to 250,000. Sockeye salmon escapement goals were first listed in preseason management plans in 1978.

After a large sockeye salmon escapement at Frazer in 1980 (405,000) there were indications that the previous assessment of spawning potential was correct. In 1981 the Frazer Lake goal was raised to 350,000 to 400,000 sockeye salmon. During the early 1980s there were some large escapements into Frazer Lake that met, and at times, exceeded this goal.

The Frazer Lake sockeye salmon stock did not respond as expected to the higher escapements, with much lower than expected returns coming from the large escapements. The first poor run was in 1984, and the effects of previous overescapements were suspected. Poor sockeye salmon runs to Frazer Lake occurred again in 1986 and the Frazer Lake sockeye salmon escapement goal was lowered to 200,000 to 275,000 sockeye salmon in 1986.

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In 1988 the sockeye salmon escapement goals for Frazer Lake were again changed. Upon review of escapements and subsequent returns by ADF&G management and research staffs, the goal was reduced to 140,000 to 200,000 sockeye salmon, with an escapement of 140,000 sockeye salmon being the targeted escapement goal.

While historical escapement data indicate that the current escapement goal provides for sustained yield, CF is currently reviewing the Frazer BEG in accordance with the EGP and SSFP.

Appendix B.5. Sockeye salmon escapement goal summary for Karluk early and late runs.

Regulatory Area: Kodiak (Area K) – Southwest Kodiak District, Inner Karluk Section

Stock Unit: Karluk River Early and Late Runs

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Commercial sport; Subsistence

Biological Escapement Goal: Early Run: 150,000 to 250,000
Late Run: 400,000 to 550,000
Total: 550,000 to 800,000

Sustainable Escapement Goal: None specified

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Weir counts

History of Goal: Escapement goals prior to 1976 were not published by the department.

From 1976-1977, the minimum escapement goal prior to June 12 was 103,000 fish, while the combined goal for June was 200,000; total early and late stock desired escapement goals were 500,000 to 800,000. This range is assumed to be founded upon qualitative assessment of historical escapements and subsequent runs.

From 1978-1982 the minimum and desired escapement goals by month were:

June -	200,000	-	250,000
July-	25,000	-	50,000
August -	100,000	-	175,000
September -	125,000	-	250,000
October -	10,000	-	50,000
Total	460,000	-	775,000

These ranges were based on observed run segment spawning ground utilization, historical escapement levels that produced large runs, lake fry rearing capacity, and assumed prespawning mortality.

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From 1983-1987 the ranges for the July, August, and September portions were increased. Minimum and desired escapement goals by month therefore were:

June -	200,000	-	250,000
July -	50,000	-	100,000
August -	150,000	-	250,000
September -	150,000	-	250,000
October -	10,000	-	50,000
Total	560,000	-	900,000

From 1988-1991 an early stock, for management purposes, was identified as sockeye counted through the weir before July 15; the late stock was designated as those migrating through the weir after July 15.

<u>Early stock</u>	<u>Late stock</u>
250,000 to 350,000	310,000 to 550,000

Both the Karluk early and late run escapement goals were modified in April 1992 based on historical catch and escapement data, spawner recruit estimates (1980-1986), spawning area assessments, fry and smolt production data, and limited analysis of limnological characteristics. These changes were founded on the belief that the early run escapement goal was too high and better production would be realized if the escapement goal was lowered from 250,000-350,000 to 150,000-250,000. In addition, analysis of late run data suggested that the lower end of the late run escapement goal be increased from 310,000 to 400,000, while the high end remain the same (550,000).

<u>Early run</u>	<u>Late run</u>
150,000 to 250,000	400,000 to 550,000

Although some recent studies suggest that the early and late run escapement should be of similar magnitude, these studies are still under review and there is no expectation that present escapement goals will be changed in the immediate future.

Regulatory Area: Kodiak (Area K) – Northwest Kodiak District, Central Section

Stock Unit: Little River

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 15,000 to 25,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey and remote video

History of Goal: No escapement goal was published for this system prior to 1988.

The SEG for this system was founded upon historical aerial survey indexed escapement counts and to a lesser extent cursory spawning habitat evaluations. Through 2000 salmon escapement to Little River was estimated using aerial survey data. In 2001 the Kodiak National Wildlife Refuge (FWS) operated an adult salmon counting weir along with a remote video system to monitor sockeye salmon escapements. Once the remote station is established and estimates are verified in a 3-year feasibility study, the actual cost of operating the remote video station will be minimal. Thus, remote video could provide consistent, more accurate and inexpensive estimates of escapement.

Appendix B.7. Sockeye salmon escapement goal summary for Afognak Lake.

Regulatory Area: Kodiak (Area K) – Afognak District, Southeast Afognak Section

Stock Unit: Litnik River/Afognak Lake

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Commercial sport; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 40,000 to 60,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Weir counts

History of Goal: The SEG for this system was founded upon historical escapements that produced larger than average runs and, to a lesser extent, cursory spawning habitat evaluations.

Appendix B.8. Sockeye salmon escapement goal summary for Malina Lakes.

Regulatory Area: Kodiak (Area K) – Afognak District, Southwest Afognak Section

Stock Unit: Malina Lakes

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 10,000 to 20,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Weir counts

History of Goal: No escapement goal for this system was published prior to 1988.

The escapement goal for this system was founded upon historical aerial survey indexed escapement counts (5,000 to 10,000 fish), which on the average produced runs in excess of the escapement goal, and to a lesser extent cursory spawning habitat evaluations.

A rehabilitation project (lake fertilization and egg collection) has been conducted on this system attempting to enhance egg to fry and rearing fry to smolt survival. Based upon this work, and the operation of an enumeration weir since 1992, the sockeye salmon escapement goal was raised to 10,000 to 20,000.

Appendix B.9. Sockeye salmon escapement goal summary for Pasagshak River.

Regulatory Area: Kodiak (Area K) – Eastside Kodiak District, Outer Ugak Bay Section

Stock Unit: Pasagshak River

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Commercial sport; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 1,000 to 5,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey counts

History of Goal: No escapement goal was published for this system prior to 1988.

The escapement goal for this system was founded upon historical aerial survey indexed escapement counts and to a lesser extent cursory spawning habitat evaluations. Precise escapement (weir counts) enumeration is not anticipated owing to the current budget conditions. However, foot surveys from 1990-2001 indicate that average sockeye salmon escapement is estimated to be about 11,000 fish. In addition, there is increasing sport and subsistence use of this stock with recent annual subsistence and sport fish harvests averaging about 5,000 fish.

While historical escapement data indicate that the current SEG provides for sustained yield, there is some consideration that the goal may be too low. The department may review the existing SEG in the near future for consistency with the EGP and SSFP.

Appendix B.10. Sockeye salmon escapement goal summary for Pauls, Laura, and Gretchen Lakes.

Regulatory Area: Kodiak (Area K) – Afognak District, Perenosa Bay Section

Stock Unit: Pauls Bay/ Pauls, Laura, and Gretchen Lakes

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Commercial sport; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 20,000 to 40,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Weir counts

History of Goal: The escapement goal for this system was founded upon historical escapements, which produced larger than average runs, and to a lesser extent cursory spawning habitat evaluations. Recent limnological and fry stocking/smolt survival information suggests that this is an appropriate SEG. However, zooplankton densities and biomass may limit the production of juvenile sockeye; fry stocking was conducted through 1999 and lake a fertilization program is currently being conducted. Results from these investigations will be used in the future to reevaluate the current SEG in accordance with the EGP and SSFP.

Appendix B.11. Sockeye salmon escapement goal summary for SALTERY Lake.

Regulatory Area: Kodiak (Area K) – Eastside Kodiak District, Inner Ugak Bay Section

Stock Unit: SALTERY River/Lake

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Commercial sport; Subsistence

Biological Escapement Goal: 15,000 to 30,000

Sustainable Escapement Goal: None specified

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Weir counts

History of Goal: No escapement goals were published for this system prior to 1988.

The sockeye salmon SEG for the SALTERY Lake system through the 2000 salmon season was 20,000 to 40,000 adults. This SEG was based upon historical escapements and limited spawning surveys. While historical escapement data indicated that this escapement goal provided for sustained yield, CF reevaluated this goal in 2001 to estimate S_{MSY} . The 2001 SALTERY BEG investigation included spawner-recruit, euphotic zone depth and volume, smolt biomass as a function of zooplankton biomass, smolt biomass as a function of lake rearing availability, and spawning habitat availability analyses.

Following these analyses, the current BEG for SALTERY sockeye salmon of 15,000 to 30,000 was adopted in 2001.

Appendix B.12. Sockeye salmon escapement goal summary for Uganik Lake.

Regulatory Area: Kodiak (Area K) – Northwest Kodiak District, Inner Uganik Bay Section

Stock Unit: Uganik Lake

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Commercial sport; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 40,000 to 60,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey

History of Goal: The SEG for this system was founded upon historical aerial survey indexed total escapements which produced larger than average runs and to a lesser extent cursory spawning habitat evaluations. In 1990 the USFWS initiated a weir on this system for sockeye salmon escapement enumeration and age composition information collection; the weir project was terminated after the 1992 season. Aerial surveys remain the current method to assess the escapement.

Appendix B.13. Sockeye salmon escapement goal summary for Upper Station early and late run.

Regulatory Area: Kodiak (Area K) – Alitak Bay District, Inner and Outer Upper Station Sections

Stock Unit: Upper Station (Olga) Lakes

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Commercial sport; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal:	Early	50,000 to 75,000
	Late	150,000 to 200,000
	Total	200,000 to 275,000

Optimal Escapement Goal: Early 25,000

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Weir counts

History of Goal: Escapement goals prior to 1978 were not published.

In the early 1970s the Upper Station escapement goal for sockeye salmon was set at 180,000. Sockeye salmon escapement goals were first listed in preseason management plans in 1978. In developing the Upper Station sockeye salmon escapement goal, it was noted that extensive research into the optimum escapement level for this and other systems was lacking and, as a result, many of the initial escapement goals were based on assessment and interpretation of historic production levels. For Upper Station the sockeye salmon escapement goal ranged from 100,000 to 180,000 fish. This goal was apportioned by month, as follows: July-30,000, August-130,000, and September-20,000 fish. The August portion of the goal was further broken down into weekly goals. No portion of the year-end escapement requirement was expected to occur in June.

In 1983 the sockeye salmon escapement goal for Upper Station was increased to a range of 150,000 to 250,000 fish, primarily based on an improved return from only one year (1974) of high escapement. Due to fishery restrictions, the early segment of the Upper Station sockeye salmon run began to build, and it became prudent to establish an escapement goal for June. The early portion of the goal was changed from 30,000 sockeye salmon in July to 50,000 sockeye salmon in June and July (20,000 as the June goal, and 30,000 as the July goal). In addition, the August portion of the goal was increased from 130,000 to 175,000 sockeye salmon. The new

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August goal was again broken down into weekly goals. The September portion of the goal was also increased from 20,000 to 25,000. These escapement goals remained in effect through 1987.

In 1988 the sockeye salmon escapement goals for Upper Station were again changed. The target escapement goal was raised to 275,000 sockeye salmon, and a minimum goal of 200,000 sockeye salmon. The early-run component was identified as those fish counted past the weir through July 15, and a late-run component was identified as sockeye salmon entering the system after July 15. The sockeye salmon escapement goal for the early Upper Station run was changed to a range of 50,000 to 75,000 fish through July 15. This was a large increase from the previous early-run goals (50,000 in June and July). This early goal was used as an “action point” to trigger directed fisheries in the normally closed waters of upper Olga Bay. The sockeye salmon escapement goal for the late run to Upper Station was changed to a range of 150,000 to 200,000 fish from July 15 through mid September recognizing that this was still the most productive portion of Upper Station’s annual sockeye salmon run.

Recognizing difficulties in contemporaneously achieving the early-run escapement goals for both Frazer and Upper Station, given the mixed stock fishery in Alitak Bay and Moser/Olga Bay, the BOF established an OEG goal for the early Upper Station run of 25,000 in 1999. This OEG is consistent with the EGP and SSFP as it is considered sustainable; past escapements near this level have achieved high returns per spawner. The late-run goal remains 150,000 to 200,000.

While historical escapement data indicate that the current SEGs for Upper Station provide for sustained yield, spawner-recruit data have not yet been analyzed to estimate S_{MSY} . CF is currently reviewing both early and late Upper Station sockeye salmon escapement and harvest data to establish a BEG in accordance with the EGP and SSFP.

Appendix C.1. Coho salmon escapement goal summary for Akalura Creek.

Regulatory Area: Kodiak (Area K) – Alitak Bay District, Inner and Outer Akalura Sections

Stock Unit: Akalura Creek

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Commercial sport; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 1,500 to 3,500 by September 15

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Weir counts

History of Goal: Prior to 1988 there were no published coho escapement goals for this system.

The SEG for this system was founded upon historical escapement weir counts, which on the average produced larger runs. The escapement goal presented, which is to be achieved annually through September 15, represents some unknown fraction of the total escapement. Precise determination of the actual total escapement is not anticipated due to current budget limitations.

Appendix C.2. Coho salmon escapement goal summary for American River.

Regulatory Area: Kodiak (Area K) – Northeast Kodiak District, Inner Chiniak Bay Section

Stock Unit: American River

Primary Management Division: Sport Fish

Primary Fisheries: Commercial; Sport; Commercial sport, Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 300 to 400

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified.

Escapement Enumeration Method: Aerial surveys and foot surveys conducted in mid October to early November.

History of Goal: This SEG was established based on average historical foot survey counts that had proven successful in maintaining runs. Counts in the 1980s ranged from 100 to 900 with an average of 400.

There are six significant coho streams located in Chiniak Bay, and these streams are usually managed as a unit. The Buskin is the major producer, monitored by a weir, and therefore used as the major indicator of Chiniak coho run strength and timing. The American is also occasionally used as an indicator stream. Management decisions are made so that most of the streams within Chiniak Bay unit will receive at least the minimum number of spawners. In the American River the minimum number of spawners is 300.

Appendix C.3. Coho salmon escapement goal summary for Ayakulik River.

Regulatory Area: Kodiak (Area K) – Southwest Kodiak District, Inner Ayakulik Section

Stock Unit: Ayakulik River

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Commercial sport

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 12,000 to 18,000 by September 10

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Weir counts

History of Goal: Prior to 1988 there were no published coho escapement goals for this system.

The escapement goal for this system was founded upon historical escapement weir counts, which on the average produced large runs. The escapement goal presented, which is to be achieved annually through September 10, represents some unknown fraction of the total escapement. In addition, a build up of 6,000 to 8,000 coho below the weir is desired. Precise determination of the actual total escapement is not anticipated due to current budget limitations.

Appendix C.4. Coho salmon escapement goal summary for Bear Creek.

Regulatory Area: Kodiak (Area K) – Afognak District, Shuyak Island Section

Stock Unit: Bear Creek

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Commercial sport; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 350 to 700 by September 20

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Weir counts

History of Goal: Prior to 1988 there were no published coho escapement goals for this system.

The escapement goal for this system was founded upon historical escapement weir counts, which on the average produced large runs. The escapement goal presented, which is to be achieved annually through September 20, represents some unknown fraction of the total escapement. In addition, a build up of 400 coho below the weir at this date is desired. Precise determination of the actual total escapement is not anticipated due to current budget limitations.

Appendix C.5. Coho salmon escapement goal summary for Big Bay Creek.

Regulatory Area: Kodiak (Area K) – Afognak District, Shuyak Island Section

Stock Unit: Big Bay Creek

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Commercial sport; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 600 to 1,300 by September 20

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Weir counts

History of Goal: Prior to 1988 there were no published coho escapement goals for this system.

The escapement goal for this system was founded upon historical escapement weir counts, which on the average produced large runs. The escapement goal presented, which is to be achieved annually through September 20, represents some unknown fraction of the total escapement. In addition, a build up of 400 to 700 coho below the weir is desired. Precise determination of the actual total escapement is not anticipated due to current budget limitations.

Appendix C.6. Coho salmon escapement goal summary for Buskin River.

Regulatory Area: Kodiak (Area K) – Northeast Kodiak District, Buskin River Section

Stock Unit: Buskin River

Primary Management Division: Sport Fish

Primary Fisheries: Commercial; Sport; Commercial sport; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 5,300 to 8,300

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified.

Escapement Enumeration Method: Weir counts

History of Goal: Prior to the installation of a weir in 1985, foot surveys were conducted to count Buskin River coho salmon. The minimum goal for a foot survey was 2,000 coho salmon with a desired level of 3,300. Surveys were conducted in late October or early November. Survey goals were based on average historical survey counts.

Weir enumeration counts were established at 5,000, to 9,000 coho. After fish pass through the weir they are subjected to a sport fish removal. If an average of 700 coho are harvested above the weir then an unofficial 6,000 to 9,000 inriver goal will allow 5,300 to 8,300 fish to spawn.

There are six significant coho streams located in Chiniak Bay, and these streams are usually managed as a unit. The Buskin is the major producer, monitored by a weir, and therefore used as the major indicator of Chiniak coho run strength and timing. Management decisions are made so that most of the streams within Chiniak Bay unit will receive at least the minimum number of spawners.

Appendix C.7. Coho salmon escapement goal summary for Dog Salmon River.

Regulatory Area: Kodiak (Area K) – Alitak Bay District, Dog Salmon Flats Section

Stock Unit: Dog Salmon River

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Commercial sport; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 3,500 to 5,500 by September 15

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Weir counts

History of Goal: Prior to 1988 there were no published coho escapement goals for this system.

The escapement goal for this system was founded upon historical escapement weir counts, which on the average produced larger runs. The escapement goal presented, which is to be achieved annually through September 15, represents some unknown fraction of the total escapement. In addition, a build up of 1,000 to 3,000 coho below the weir is desired. Precise determination of the actual total escapement is not anticipated due to current budget limitations.

Appendix C.8. Coho salmon escapement goal summary for Karluk River.

Regulatory Area: Kodiak (Area K) – Southwest Kodiak District, Central Section

Stock Unit: Karluk River

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Commercial sport; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 10,000 to 20,000 by September 20

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Weir counts

History of Goal: Prior to 1988 there were no published coho escapement goals for this system.

The escapement goal for this system was founded upon historical escapement weir counts, which on the average produced larger runs. The escapement goal presented, which is to be achieved annually through September 20, represents some unknown fraction of the total escapement. In addition, a build up of 5,000 coho salmon below the weir is desired. Precise determination of the actual total escapement is not anticipated due to current budget limitations.

Appendix C.9. Coho salmon escapement goal summary for Litnik (Afognak River).

Regulatory Area: Kodiak (Area K) – Afognak District, Southeast Afognak Section

Stock Unit: Litnik (Afognak River)

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Commercial sport; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 3,500 to 8,000 by September 15

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Weir counts

History of Goal: Prior to 1988 there were no published coho escapement goals for this system.

The current spawning escapement goal was based on historical averages that have continued to sustain harvestable surpluses. The escapement goal presented, which is to be achieved annually through September 15, represents some unknown fraction of the total escapement. Precise determination of the actual total escapement is not anticipated due to current budget limitations.

Appendix C.10. Coho salmon escapement goal summary for Olds River.

Regulatory Area: Kodiak (Area K) – Northeast Kodiak District

Stock Unit: Olds River

Primary Management Division: Sport Fish

Primary Fisheries: Commercial; Sport; Commercial sport, Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 450 to 675

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial surveys and foot surveys conducted in mid October to early November.

History of Goal: Prior to 1988 there were no published coho escapement goals for this system.

This spawning escapement goal was established based on average historical foot survey counts that had proven successful in maintaining runs. There are six significant coho streams located in Chiniak Bay, and these streams are usually managed as a unit. The Buskin is the major producer, monitored by a weir, and therefore used as the major indicator of Chiniak coho run strength and timing. The Olds River is also occasionally used as an indicator stream. Management decisions are made so that most of the streams within Chiniak Bay will receive at least the minimum number of spawners. In the Olds the minimum number of spawners is 450

Appendix C.11. Coho salmon escapement goal summary for Pasagshak River.

Regulatory Area: Kodiak (Area K) – Eastside Kodiak District, Outer Ugak Bay Section

Stock Unit: Pasagshak River

Primary Management Division: Sport Fish

Primary Fisheries: Commercial; Sport; Commercial sport; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 1,500 to 3,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial surveys and foot surveys conducted in late October or early November

History of Goal: Prior to 1988 there were no published coho escapement goals for this system.

This spawning escapement goal was established based on average historical foot survey counts that had proven successful in maintaining runs.

Appendix C.12. Coho salmon escapement goal summary for Pauls Lake.

Regulatory Area: Kodiak (Area K) – Afognak District, Perenosa Bay Section

Stock Unit: Pauls Lake

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Commercial sport

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 6,500 to 9,000 by September 15

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Weir counts

History of Goal: Prior to 1988 there were no published coho escapement goals for this system.

The escapement goal for this system was founded upon historical escapement weir counts, which on the average produced large runs. The escapement goal presented, which is to be achieved annually through September 15, represents some unknown fraction of the total escapement. Precise determination of the actual total escapement is not anticipated due to current budget limitations.

Appendix C.13. Coho salmon escapement goal summary for Portage Creek.

Regulatory Area: Kodiak (Area K) – Afognak District, Perenosa Bay Section

Stock Unit: Portage Creek

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Commercial sport; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 2,000 to 3,500 by September 15

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey

History of Goal: Prior to 1988 there were no published coho escapement goals for this system.

The escapement goal for this system was founded upon historical escapement weir counts, which on the average produced large runs. The escapement goal presented, which is to be achieved annually through September 15, represents some unknown fraction of the total escapement. Precise determination of the actual total escapement is not anticipated due to current budget limitations.

Appendix C.14. Coho salmon escapement goal summary for Rosalyn Creek.

Regulatory Area: Kodiak (Area K) – Northeast Kodiak District, Outer Chiniak Bay Section

Stock Unit: Rosalyn Creek

Primary Management Division: Sport Fish

Primary Fisheries: Commercial; Sport

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 600 to 1,200

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Foot surveys conducted in mid October to early November

History of Goal:

This spawning escapement goal was established based on average historical foot survey counts, which had proven successful in maintaining runs. Counts in the 1980s ranged from 50 to 700 with an average of 350.

There are six significant coho streams located in Chiniak Bay, and these streams are usually managed as a unit. The Buskin is the major producer, monitored by a weir, and therefore used as the major indicator of Chiniak coho run strength and timing. Rosalyn Creek is also occasionally used as an indicator stream. Management decisions are made so that most of the streams within Chiniak Bay will receive at least the minimum number of spawners.

In the Rosalyn Creek the minimum number of spawners is 600. While this level of escapement provides for sustained yield, there is some speculation that a more realistic goal for Rosalyn Creek would be 200 to 500. Therefore, the department may evaluate this SEG in the near future.

Appendix C.15. Coho salmon escapement goal summary for SALTERY RIVER.

Regulatory Area: Kodiak (Area K) – Eastside Kodiak District, Inner Ugak Section

Stock Unit: SALTERY RIVER

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Commercial sport; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 3,000 to 5,000 by September 20

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Weir counts

History of Goal: Prior to 1988 there were no published coho escapement goals for this system.

The escapement goal for this system is founded upon historical weir counts, which on the average produced large runs. The escapement goal presented, which is to be achieved annually through September 20, represents some unknown fraction of the total escapement. In addition, a build up of 2,000 to 5,000 coho below the weir is desired. Precise determination of the actual total escapement is not anticipated due to current budget limitations. Precise determination of the actual total escapement is not anticipated owing to current budget conditions.

Appendix C.16. Coho salmon escapement goal summary for Upper Station (Olga Lakes).

Regulatory Area: Kodiak (Area K) – Alitak Bay District, Inner Upper Station Section

Stock Unit: Upper Station (Olga Lakes)

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Commercial sport; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 3,500 to 5,500 by September 15

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Weir counts

History of Goal: Prior to 1988 there were no published coho escapement goals for this system.

The escapement goal for this system is founded upon historical escapement weir counts, which on the average produced large runs. The escapement goal presented, which is to be achieved annually through September 15, represents some unknown fraction of the total escapement. Precise determination of the actual total escapement is not anticipated due to current budget limitations.

Appendix D.1. Pink salmon escapement goal summary for the Afognak District.

Regulatory Area: Kodiak (Area K) – Afognak District

Stock Unit: Afognak District index streams

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: Even Year 145,000 to 435,000
Odd Year 80,000 to 240,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey counts (6 systems)/weir counts (1 system)/foot surveys (1 system)

History of Goal: Prior to 1977 pink salmon indexed escapement goals were not published.

Prior to 1988 indexed escapement goals were derived for several index streams by qualitative evaluations of historical production trends and escapement levels that produced strong runs, taking into account for each district broodline specific preemergent fry indices. The terms minimum and desired escapement goals were employed by fishery managers so that during weak return years they would be able to at least achieve the minimum goal while providing some commercial fishing opportunities, while during years of strong runs they would manage the fishery to attain the desired goals and maximize fishing opportunities.

Even year		Odd year	
		1977:	70,000
1978:	200,000	1979:	150,000 (desired)
1980 – 1986:	250,000 (desired)	1981:	130,000 (minimum)
		1983:	150,000 (desired)
		1985:	150,000 (desired)

In 1988 the even-year goals were changed to 150,000 to 450,000, while odd-year goals were set at 85,000 to 250,000.

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The even and odd-year goals developed in 1988 were changed slightly during 1990 to 148,000 to 444,000 and 83,000 to 249,000, respectively.

In 1998 some further adjustments were made, based upon comparisons of the index goals to the past 10 to 20 years of aerial survey estimates, and elimination of one previously used index stream. Thus, the current Afognak District pink salmon even-year SEG ranges from 145,000 to 435,000, while the odd-year SEG ranges from 80,000 to 240,000.

Even-year broodline	Odd-year broodline
Indexed 145,000 to 435,000	Indexed 80,000 to 240,000

Component escapement objectives include:

System		Component Escapement Objective				Enumeration Method
Name	Number	Even Year		Odd Year		
		Lower	Upper	Lower	Upper	
Big Danger	252-332	15,000	45,000	10,000	30,000	Aerial survey
Portage (Perenos)	251-825	20,000	60,000	20,000	60,000	Aerial survey
Litnik	252-342	30,000	90,000	10,000	30,000	Weir
Little Waterfall	251-822	15,000	45,000	15,000	45,000	Foot/aerial survey
Malina	251-105	20,000	60,000	5,000	15,000	Aerial survey
Marka	252-334	30,000	90,000	10,000	30,000	Aerial survey
Paramanof	251-404	10,000	30,000	5,000	15,000	Aerial survey
Seal Bay	251-901	5,000	15,000	5,000	15,000	Aerial survey
District Total		145,000	435,000	80,000	240,000	

Appendix D.2. Pink salmon escapement goal summary for the Alitak Bay District.

Regulatory Area: Kodiak (Area K) – Alitak Bay District

Stock Unit: Alitak Bay District index streams

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: Even Year: 162,000 to 486,000
Odd Year: 212,000 to 636,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey (3 systems) and weir (1 system)

History of Goal: Prior to 1977 district specific escapement goals were not published.

Prior to 1988 indexed minimum and desired escapement goals were derived for four index streams within this district by qualitative evaluations of historical production trends and escapement levels that produced strong runs, taking into account broodline specific preemergent fry indices.

<u>Even-year broodline</u>	<u>Odd-year broodline</u>
1978: 500,000 (minimum)	1977: 330,000 (minimum)
1980-1986: 500,000 (desired)	1979: 400,000 (desired)
	1981: 300,000 (minimum)
	1983: 400,000 (desired)
	1985: 400,000 (desired)

In 1988 the even-year goals were changed to 162,000 to 486,000, while odd-year goals were set at 212,000 to 636,000.

-Continued-

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Component escapement objectives include:

System		Component Escapement Objective				Enumeration Method
Name	Number	Even Year		Odd Year		
		Lower	Upper	Lower	Upper	
Deadman	257-502	40,000	120,000	60,000	180,000	Aerial survey
Dog Salmon	257-403	50,000	150,000	60,000	180,000	Weir
Narrows	257-401	2,000	6,000	2,000	6,000	Aerial survey
Humpy	257-701	70,000	210,000	90,000	270,000	Aerial survey
District Total		162,000	486,000	212,000	636,000	

Appendix D.3. Pink salmon escapement goal summary for the Eastside Kodiak District.

Regulatory Area: Kodiak (Area K) – Eastside Kodiak District

Stock Unit: Eastside Kodiak District index streams

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: Even Year: 150,000 to 450,000
Odd Year: 140,000 to 420,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey (7 systems)

History of Goal: Prior to 1977 district specific escapement goals were not published.

Prior to 1988 indexed minimum and desired escapement goals were derived for the General District which, after 1988, became the Eastside Kodiak and Northeast Kodiak Districts. Therefore, previously defined escapement goals no longer strictly apply.

In 1988, the even-year goals were changed to, and remain at, 150,000 to 450,000, while the odd-year SEG ranges from 140,000 to 420,000.

<u>Even-year broodline</u>	<u>Odd-year broodline</u>
Indexed 150,000 to 450,000	Indexed 140,000 to 420,000

-Continued-

Component escapement objectives include:

System		Component Escapement Objective				Enumeration Method
Name	Number	Even Year		Odd Year		
		Lower	Upper	Lower	Upper	
Barling	258-522	30,000	90,000	30,000	90,000	Aerial survey
Hurst	259-414	10,000	30,000	10,000	30,000	Aerial survey
Kaiugnak	258-542	10,000	30,000	10,000	30,000	Aerial survey
Kiliuda	258-207	20,000	60,000	10,000	30,000	Aerial survey
Miam	259-412	20,000	60,000	10,000	30,000	Aerial survey
Saltery	259-415	20,000	60,000	30,000	90,000	Aerial survey
Seven Rivers	258-701	40,000	120,000	40,000	120,000	Aerial survey
District Total		150,000	450,000	140,000	420,000	

Appendix D.4. Pink salmon escapement goal summary for the Mainland District.

Regulatory Area: Kodiak (Area K) – Mainland District

Stock Unit: Mainland District index streams

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport

Biological Escapement Goal: None specified

Sustainable Escapement Goal: Even Year: 256,000 to 768,000
Odd Year: 215,000 to 645,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey (16 systems)

History of Goal: Prior to 1977 district specific escapement goals were not published.

Prior to 1988 indexed minimum and desired escapement goals were derived for 16 index streams within this district by qualitative evaluations of historical production trends and escapement levels that produced strong runs, taking into account broodline specific preemergent fry indices.

<u>Even-year broodline</u>	<u>Odd-year broodline</u>
1978: 250,000 (minimum)	1977: 200,000 (minimum)
1980-1986: 400,000 (desired)	1979: 400,000 (desired)
	1981: 250,000 (minimum)
	1983: 400,000 (desired)
	1985: 400,000 (desired)

-Continued-

The current Mainland District pink salmon even-year SEG, set in 1988, ranges from 256,000 to 768,000, while the odd-year SEG ranges from 215,000 to 645,000.

Even-year broodline

Indexed
256,000 to 768,000

Odd-year broodline

Indexed
215,000 to 645,000

Component escapement objectives include:

System		Component Escapement Objective				Enumeration Method
Name	Number	Even Year		Odd Year		
		Lower	Upper	Lower	Upper	
Big Alinchak	262-651	30,000	90,000	20,000	60,000	Aerial survey
Big Creek	262-851	70,000	210,000	60,000	180,000	Aerial survey
Big Hallo	262-203	2,000	6,000	2,000	6,000	Aerial survey
Big River	262-152	10,000	30,000	10,000	30,000	Aerial survey
Cape Chiniak	262-205	5,000	15,000	3,000	9,000	Aerial survey
Dakavak	262-551	25,000	75,000	20,000	60,000	Aerial survey
Geographic	262-501	4,000	12,000	4,000	12,000	Aerial survey
Jute	262-801	2,000	6,000	1,000	3,000	Aerial survey
Kanatak	262-802	10,000	30,000	10,000	30,000	Aerial survey
Kashvik	262-604	25,000	75,000	25,000	75,000	Aerial survey
Kinak	262-451	20,000	60,000	20,000	60,000	Aerial survey
Kukak	262-271	3,000	9,000	2,000	6,000	Aerial survey
Missak	262-402	5,000	15,000	3,000	9,000	Aerial survey
Oil	262-751	15,000	45,000	10,000	30,000	Aerial survey
Portage	262-702	15,000	45,000	10,000	30,000	Aerial survey
Village	262-153	15,000	45,000	15,000	45,000	Aerial survey
District Total		256,000	768,000	215,000	645,000	

Appendix D.5. Pink salmon escapement goal summary for the Northeast Kodiak District.

Regulatory Area: Kodiak (Area K) – Northeast Kodiak District

Stock Unit: Northeast Kodiak District index streams

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: Even Year: 120,000 to 360,000
Odd Year: 110,000 to 330,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey (2 systems) and weir (1 system),

History of Goal: Prior to 1977 district specific escapement goals were not published.

Prior to 1988 indexed minimum and desired escapement goals were derived for the General District which, after 1988, became the Eastside Kodiak and Northeast Kodiak Districts. Therefore, previously defined escapement goals no longer strictly apply.

The current Northeast Kodiak District pink salmon even-year SEG, set in 1988, ranges from 120,000 to 360,000, while the odd-year SEG ranges from 110,000 to 330,000.

Even-year broodline

Indexed
120,000 to 360,000

Odd-year broodline

Indexed
110,000 to 330,000

-Continued-

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Component escapement objectives include:

System		Component Escapement Objective				Enumeration Method
Name	Number	Even Year		Odd Year		
		Lower	Upper	Lower	Upper	
American	259-231	30,000	90,000	30,000	90,000	Aerial survey
Buskin	259-211	60,000	180,000	50,000	150,000	Weir
Olds	259-242	30,000	90,000	30,000	90,000	Aerial survey
District Total		120,000	360,000	110,000	330,000	

Appendix D.6. Pink salmon escapement goal summary for the Northwest Kodiak District.

Regulatory Area: Kodiak (Area K) – Northwest Kodiak District

Stock Unit: Northwest Kodiak District index streams

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: Even Year: 315,000 to 945,000
Odd Year: 220,000 to 660,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey counts (9 systems)

History of Goal: Prior to 1977 pink salmon indexed escapement goals were not published.

Prior to 1988 indexed minimum and desired escapement goals were derived and published for the Westside of Kodiak Island which encompassed escapements into the Uganik, Uyak, Karluk, Sturgeon and Red River District streams. Currently, the Northwest Kodiak District is composed of a portion of the previous Karluk District and the entire previous Uyak and Uganik Districts; therefore, prior published escapement goals for this district no longer strictly apply.

The current Northwest Kodiak District pink salmon even-year SEG, set in 1988, ranges from 315,000 to 945,000, while the odd-year SEG ranges from 220,000 to 660,000.

Even-year broodline

Indexed
315,000 to 945,000

Odd-year broodline

Indexed
220,000 to 660,000

-Continued-

Component escapement objectives include:

System		Component Escapement Objective				Enumeration Method
Name	Number	Even Year		Odd Year		
		Lower	Upper	Lower	Upper	
Baumans	253-332	5,000	15,000	5,000	15,000	Aerial survey
Browns	254-204	40,000	120,000	5,000	15,000	Aerial survey
Little	253-115	40,000	120,000	15,000	45,000	Aerial survey
Sheratin	259-371	15,000	45,000	10,000	30,000	Aerial survey
Terror	253-331	40,000	120,000	30,000	90,000	Aerial survey
Uganik	253-122	80,000	240,000	70,000	210,000	Aerial survey
Uyak River	254-202	50,000	150,000	50,000	150,000	Aerial survey
Uyak (East Cr.)	254-203	5,000	15,000	15,000	45,000	Aerial survey
Zachar	254-301	40,000	120,000	20,000	60,000	Aerial survey
District Total		315,000	945,000	220,000	660,000	

Appendix D.7. Pink salmon escapement goal summary for the Southwest Kodiak District.

Regulatory Area: Kodiak (Area K) – Southwest Kodiak District

Stock Unit: Southwest Kodiak District index streams

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: Even Year: 1,250,000 to 2,550,000
Odd Year: 30,000 to 90,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey counts (3 systems)

History of Goal: Prior to 1977 pink salmon indexed escapement goals were not published.

Prior to 1988 indexed minimum and desired escapement goals were derived and published for the Westside of Kodiak Island, which encompassed escapements into the Uganik, Uyak, Karluk, Sturgeon and Red River District streams. Currently, the Southwest Kodiak District is composed of a portion of the previous Karluk District and the entire previous Red River and Sturgeon Districts. Therefore, prior published escapement goals for this district no longer strictly apply.

The current Southwest Kodiak District pink salmon even-year SEG, set in 1988, ranges from 1,250,000 to 2,550,000, while the odd-year SEG ranges from 30,000 to 90,000.

Even-year broodline

Indexed
1,250,000 to 2,550,000

Odd-year broodline

Indexed
30,000 to 90,000

-Continued-

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Component escapement objectives include:

System		Component Escapement Objective				Enumeration Method
Name	Number	Even Year		Odd Year		
		Lower	Upper	Lower	Upper	
Ayakulik	256-201	400,000	800,000	5,000	15,000	Weir
Karluk	255-101	800,000	1,600,000	20,000	60,000	Weir
Sturgeon	256-401	50,000	150,000	5,000	15,000	Aerial survey
District Total		1,250,000	2,550,000	30,000	90,000	

Appendix E.1. Chum salmon escapement goal summary for the Alitak Bay District.

Regulatory Area: Kodiak (Area K) – Alitak Bay District

Stock Unit: Alitak Bay District index streams

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 26,000 to 78,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey (5 systems) and foot survey (1 system)

History of Goal: Prior to 1988 chum salmon indexed escapement goals were not published.

The goals published in 1988 were derived employing historical production trends by individual district. These goals were updated in 1998. Because of the mixed stock nature of the commercial fishery, stream specific escapement goals are untenable. Enumeration of chum escapements is conducted by aerial surveys of particular streams that are repeatable from year to year, and are considered an acceptable index of escapements on a district-wide basis.

Component escapement objectives include:

System		Component Escapement Objective		Enumeration
Name	Number	Lower	Upper	Method
Big Sukhoi	257-102	10,000	30,000	Aerial survey
Deadman	257-502	3,000	9,000	Aerial survey
Dog Salmon	257-403	2,000	6,000	Foot survey
Narrows	257-401	1,000	3,000	Aerial survey
Portage	257-601	5,000	15,000	Aerial survey
Sulua	257-603	5,000	15,000	Aerial survey
District Total		26,000	78,000	

Appendix E.2. Chum salmon escapement goal summary for the Eastside Kodiak District.

Regulatory Area: Kodiak (Area K) – Eastside Kodiak District

Stock Unit: Eastside Kodiak District index streams

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 35,000 to 105,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey (16 systems)

History of Goal: Prior to 1988 chum salmon indexed escapement goals were not published.

The goals published in 1988 were derived employing historical production trends by individual district. These goals were updated in 1998. Because of the mixed stock nature of the commercial fishery, stream specific escapement goals are untenable. Enumeration of chum escapements is conducted by aerial surveys of particular streams that are repeatable from year to year, and are considered an acceptable index of escapements on a district-wide basis.

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Component escapement objectives include:

System		Component Escapement Objective		Enumeration
Name	Number	Lower	Upper	Method
Barling	258-522	3,000	9,000	Aerial survey
Coxcomb Point	258-205	3,000	9,000	Aerial survey
Dog Bay	258-204	3,000	9,000	Aerial survey
E. Kiliuda	258-206	1,000	3,000	Aerial survey
Eagle Harbor	259-424	3,000	9,000	Aerial survey
Gull Cape	259-428	6,000	18,000	Aerial survey
Kaguyak	258-602	2,000	6,000	Aerial survey
Kiliuda Pass	259-423	1,000	3,000	Aerial survey
Midway	258-521	2,000	6,000	Aerial survey
Pivot Point	258-212	1,000	3,000	Aerial survey
Rolling	258-511	3,000	9,000	Aerial survey
Rough Creek	259-416	2,000	6,000	Aerial survey
Saltery	259-415	1,000	3,000	Aerial survey
Sitkinak Chum	258-807	1,000	3,000	Aerial survey
W. Kiliuda	258-207	2,000	6,000	Aerial survey
Wild Creek	259-417	1,000	3,000	Aerial survey
District Total		35,000	105,000	

Appendix E.3. Chum salmon escapement goal summary for the Mainland District.

Regulatory Area: Kodiak (Area K) – Mainland District

Stock Unit: Mainland District index streams

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 133,000 to 399,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey (17 systems)

History of Goal: Prior to 1988 chum salmon indexed escapement goals were not published.

The goals published in 1988 were derived employing historical production trends by individual district. These goals were updated in 1998. Because of the mixed stock nature of the commercial fishery, stream specific escapement goals are untenable. Enumeration of chum escapements is conducted by aerial surveys of particular streams that are repeatable from year to year, and are considered an acceptable index of escapements on a district-wide basis.

Component escapement objectives include:

System		Component Escapement Objective		Enumeration
Name	Number	Lower	Upper	Method
Alagogshak	262-602	15,000	45,000	Aerial survey
Big Alinchak	262-651	1,000	3,000	Aerial survey
Big Creek	262-851	10,000	30,000	Aerial survey
Big River	262-152	15,000	45,000	Aerial survey
Chiniak Lagoon	262-154	4,000	12,000	Aerial survey
Dakavak	262-551	3,000	9,000	Aerial survey
Dry Bay	262-752	4,000	12,000	Aerial survey
East Bear	262-654	3,000	9,000	Aerial survey

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System		Component Escapement Objective		Enumeration Method
Name	Number	Lower	Upper	
Icy Peak	262-859	3,000	9,000	Aerial survey
Irnuya Bay	262-551	3,000	9,000	Aerial survey
Kashvik	262-604	2,000	6,000	Aerial survey
Kinak Creek	262-451	1,000	3,000	Aerial survey
Kukak River	262-271	40,000	120,000	Aerial survey
Serpent	262-203	6,000	18,000	Aerial survey
Teresa	262-703	4,000	12,000	Aerial survey
Trail Creek	262-704	4,000	12,000	Aerial survey
Village Creek	262-153	15,000	45,000	Aerial survey
District Total		133,000	399,000	

Appendix E.4. Chum salmon escapement goal summary for the Northeast Kodiak District.

Regulatory Area: Kodiak (Area K) – Northeast Kodiak District

Stock Unit: Northeast Kodiak District index streams

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 8,000 to 24,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey (4 systems)

History of Goal: Prior to 1988 chum salmon indexed escapement goals were not published.

The goals published in 1988 were derived employing historical production trends by individual district. These goals were updated in 1998. Because of the mixed stock nature of the commercial fishery, stream specific escapement goals are untenable. Enumeration of chum escapements is conducted by aerial surveys of particular streams that are repeatable from year to year, and are considered an acceptable index of escapements on a district-wide basis.

Component escapement objectives include:

System		Component Escapement Objective		Enumeration Method
Name	Number	Lower	Upper	
American	259-231	3,000	9,000	Aerial survey
Olds (Sid Olds)	259-242	3,000	9,000	Aerial survey
Russian River	259-222	1,000	3,000	Aerial survey
Salonie Creek	259-223	1,000	3,000	Aerial survey
District Total		8,000	24,000	

Appendix E.5. Chum salmon escapement goal summary for the Northwest Kodiak District.

Regulatory Area: Kodiak (Area K) – Northwest Kodiak District

Stock Unit: Northwest Kodiak District index streams

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 46,000 to 138,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey (8 systems)

History of Goal: Prior to 1988 chum salmon indexed escapement goals were not published.

The goals published in 1988 were derived employing historical production trends by individual district. These goals were updated in 1998. Because of the mixed stock nature of the commercial fishery, stream specific escapement goals are untenable. Enumeration of chum escapements is conducted by aerial surveys of particular streams that are repeatable from year to year, and are considered an acceptable index of escapements on a district-wide basis.

Component escapement objectives include:

System		Component Escapement Objective		Enumeration Method
Name	Number	Lower	Upper	
Kizhuyak	259-365	3,000	9,000	Aerial survey
Red Cloud	259-382	1,000	3,000	Aerial survey
Sheratin	259-371	2,000	6,000	Aerial survey
Spiridon	254-401	10,000	30,000	Aerial survey
Terror	253-331	5,000	15,000	Aerial survey
Uganik	253-122	10,000	30,000	Aerial survey
Uyak	254-202	5,000	15,000	Aerial survey
Zachar	254-301	10,000	30,000	Aerial survey
District Total		46,000	138,000	

Appendix E.6. Chum salmon escapement goal summary for the Southwest Kodiak District.

Regulatory Area: Kodiak (Area K) – Southwest Kodiak District

Stock Unit: Southwest Kodiak District index streams

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 25,000 to 75,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey (1 system)

History of Goal: Prior to 1988 chum salmon indexed escapement goals were not published

The goals published in 1988 were derived employing historical production trends by individual district. These goals were updated in 1998. Because of the mixed stock nature of the commercial fishery, stream specific escapement goals are untenable. Enumeration of chum escapements is conducted by aerial surveys of particular streams that are repeatable from year to year, and are considered an acceptable index of escapements on a district-wide basis.

Component escapement objectives include:

System		Component Escapement Objective		Enumeration Method
Name	Number	Lower	Upper	
Sturgeon	256-401	25,000	75,000	Aerial survey
District Total		25,000	75,000	

Appendix F. Chinook salmon escapement goal summary for Chignik River.

Regulatory Area: Chignik (Area L) – Chignik Bay District, Chignik Lagoon

Stock Unit: Chignik River

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial purse seine; Sport; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 1,450 to 2,700

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Weir counts

History of Goal: In 1992 a spawner recruit model was used to estimate the spawning escapement required for maximum sustained yield, which was determined to be 3,000 fish. The model predicted only slightly less abundant returns until the number of spawners dropped below 1,750, at which point predicted returns were reduced sharply. Therefore, a range of between 1,750 and 3,000 was established for spawning chinook in the Chignik River upstream of the weir. This goal did not address chinook that hold in the lower river and never pass through the weir.

In 1994 an error in estimating passage of chinook through the weir was discovered, the result of which was a recalculation of the spawning escapement goal downward to 1,450.

Although there is no optimal escapement goal or in-river goal specified by the Board of Fisheries, the sport fishery is managed to assure that at least 1,450 chinook which pass through the weir will be allowed to spawn. Also, because it is generally anticipated that about 500 chinook will be harvested by the freshwater sport fishery, it has been practice to provide at least 1,950 to 3,200 past the weir.

While historical escapement data indicate that the current escapement goal provides for sustained yield, spawner-recruit data have not been analyzed to estimate S_{MSY} . The Division of Sport Fish (SF) is currently reviewing Chignik chinook escapement and harvest data to establish a BEG in accordance with the EGP and SSFP.

Appendix G. Sockeye salmon escapement goal summary for Chignik early and late run.

Regulatory Area: Chignik (Area L) – Chignik Bay District, Chignik Lagoon

Stock Unit: Chignik River

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial purse seine; Subsistence

Biological Escapement Goal:	Early Run:	350,000 to 400,000
	Late Run:	200,000 to 250,000 by September 1
	Total:	550,000 to 650,000

Sustainable Escapement Goal: None specified

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Weir counts

History of Goal: Current escapement goals were fashioned in the mid- to late-1960s, based upon studies conducted by the University of Washington. One set of studies looked at the potential carrying capacity of Black Lake in terms of prey resources and utilized a ratio of mean fall fry per spawner of the Black Lake (early run) return to calculate an optimum number of spawners of 467,000. For Chignik Lake, with a lower density of non-sockeye species but more varied age classes of juvenile sockeye, plus the burden of supporting Black Lake fry during their outmigration, the optimum number of spawners was calculated as 200,000.

Another set of studies by UW in the late 1960s applied Ricker spawner-recruit analysis to returns to each lake for the period 1922-1960, deriving an optimum escapement for Black Lake of 383,000 and for Chignik Lake of 340,000. Given a presumption that the early part of the Black Lake return had been overfished during WWII, the goal for Black Lake was raised by 12.5% to a total of 438,000. For Chignik Lake, the goal was set at 200,000, with the intention that it would be increased to the calculated optimum of 340,000 once the suspected species composition of Black Lake would be predominated by sockeye fry and thus fewer of the Black Lake fry would need to rely on Chignik Lake.

In 1969 the various numbers for Black Lake and Chignik Lake were adjusted to an even 400,000 and 250,000 respectively. The goals have remained essentially unchanged for the past thirty years, although an additional goal of 25,000 was established in 1998 for the period September 1-15. With the benefit of recent smolt enumeration studies, and limnology studies, along with recent spawner-recruit data, CF will be reviewing the Chignik early and late run sockeye salmon BEG in accordance with the EGP and SSFP.

Regulatory Area: Chignik (Area L) – All districts

Stock Unit: All

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: None specified

Optimal Escapement Goal: None specified

In-River Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey counts

History of Goal: Due to budget constraints and the late season timing of coho salmon returns to the Chignik Management Area (Area L), there have been no specific coho salmon escapement goals established.

Appendix I.1. Pink salmon escapement goal summary for the Central District.

Regulatory Area: Chignik (Area L) – Central District

Stock Unit: Central District index streams

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 119,500

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey (8 systems)

History of Goal: Prior to 1999 district specific pink salmon escapement goals were not published, but annual escapements were compared to recent year counts.

The current Central District pink salmon SEG was derived by area managers employing historical production trends by individual district. Because of the mixed stock nature of the commercial fishery, stream specific escapement goals are untenable.

Component escapement objectives include:

System		Escapement Goal				Enumeration Method
Name	Number	Even Year		Odd Year		
		Lower	Upper	Lower	Upper	
Hook Cr.	272-302	15,000	n/a	15,000	n/a	Aerial survey
Kujulik Bay	272-504	500	n/a	500	n/a	Aerial survey
Kumlium Cr.	272-501	35,000	n/a	35,000	n/a	Aerial survey
Neketa Cr.	272-202 b	2,000	n/a	2,000	n/a	Aerial survey
New Cr.	272-516	17,000	n/a	17,000	n/a	Aerial survey
North Fork R.	272-514	25,000	n/a	25,000	n/a	Aerial survey
Rudy's Cr.	272-509	10,000	n/a	10,000	n/a	Aerial survey
Thompson Cr.	272-204	15,000	n/a	15,000	n/a	Aerial survey
District Total		119,500	n/a	119,500	n/a	

Appendix I.2. Pink salmon escapement goal summary for the Chignik Bay District.

Regulatory Area: Chignik (Area L) – Chignik Bay District

Stock Unit: Chignik Bay District index streams

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 6,500

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey (3 systems)

History of Goal: Prior to 1999 district specific pink salmon escapement goals were not published, but annual escapements were compared to previous counts.

The current Chignik Bay District pink salmon SEG was derived by area managers employing historical production trends by individual district. Because of the mixed stock nature of the commercial fishery, stream specific escapement goals are untenable.

Component escapement objectives include:

System		Escapement Goal				Enumeration Method
Name	Number	Even Year		Odd Year		
		Lower	Upper	Lower	Upper	
Lake Bay Cr.	271-101b	2,000	n/a	2,000	n/a	Aerial survey
Alfred Cr.	271-104	2,500	n/a	2,500	n/a	Aerial survey
Through Cr.	271-106	2,000	n/a	2,000	n/a	Aerial survey
District Total		6,500	n/a	6,500	n/a	

Appendix I.3. Pink salmon escapement goal summary for the Eastern District.

Regulatory Area: Chignik (Area L) – Eastern District

Stock Unit: Eastern District index streams

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 488,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey (23 systems)

History of Goal: Prior to 1999 district specific pink salmon escapement goals were not published, but annual escapements were compared to recent year counts.

The current Eastern District pink salmon SEG was derived by area managers employing historical production trends by individual district. Because of the mixed stock nature of the commercial fishery, stream specific escapement goals are untenable.

Component escapement objectives include:

System		Escapement Goal				Enumeration Method
Name	Number	Even Year		Odd Year		
		Lower	Upper	Lower	Upper	
Black Cr.	272-604	4,000	n/a	4,000	n/a	Aerial survey
Aniakchak R.	272-605	50,000	n/a	50,000	n/a	Aerial survey
Fred Gungus	272-606	50,000	n/a	50,000	n/a	Aerial survey
West Cr.	272-701	13,000	n/a	13,000	n/a	Aerial survey

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System		Escapement Goal				Enumeration Method
Name	Number	Even Year		Odd Year		
		Lower	Upper	Lower	Upper	
Main Cr.	272-702	30,000	n/a	30,000	n/a	Aerial survey
Northeast Cr.	272-703	20,000	n/a	20,000	n/a	Aerial survey
Yantarmi Cr.	272-721	12,000	n/a	12,000	n/a	Aerial survey
Ocean Beach	272-801	15,000	n/a	15,000	n/a	Aerial survey
Ocean Bch (north)	272-802	5,000	n/a	5,000	n/a	Aerial survey
Nakalilok Bay	272-803	5,000	n/a	5,000	n/a	Aerial survey
Nakalilok R.	272-804	12,000	n/a	12,000	n/a	Aerial survey
Nakalilok B. (north)	272-805	10,000	n/a	10,000	n/a	Aerial survey
Cape Kuyuyukak	272-901	7,000	n/a	7,000	n/a	Aerial survey
Cape Kuyuyukak	272-902	20,000	n/a	20,000	n/a	Aerial survey
Chiginagak R.	272-903a	15,000	n/a	15,000	n/a	Aerial survey
Chiginagak Bay	272-904	40,000	n/a	40,000	n/a	Aerial survey
Chiginagak Bay	272-905	40,000	n/a	40,000	n/a	Aerial survey
Chiginagak Bay	272-906	40,000	n/a	40,000	n/a	Aerial survey
Port Wrangell Bay	272-921	5,000	n/a	5,000	n/a	Aerial survey
Agripina Lake	272-961a	25,000	n/a	25,000	n/a	Aerial survey
Agripina Slough	272-961b	20,000	n/a	20,000	n/a	Aerial survey
Kilokak Cr.	272-963	50,000	n/a	50,000	n/a	Aerial survey
District Total		488,000	n/a	488,000	n/a	

Appendix I.4. Pink salmon escapement goal summary for the Perryville District.

Regulatory Area: Chignik (Area L) – Perryville District

Stock Unit: Perryville District index streams

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 104,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey (9 systems)

History of Goal: Prior to 1999 district specific pink salmon escapement goals were not published, but annual escapements were compared to recent year counts.

The current Perryville District pink salmon SEG was derived by area managers employing historical production trends by individual district. Because of the mixed stock nature of the commercial fishery, stream specific escapement goals are untenable.

Component escapement objectives include:

System		Escapement Goal				Enumeration Method
Name	Number	Even Year		Odd Year		
		Lower	Upper	Lower	Upper	
Kupreanof Pen.	275-401	5,000	n/a	5,000	n/a	Aerial survey
Smokey Hollow Cr.	275-402	1,000	n/a	1,000	n/a	Aerial survey
Ivanof R.	275-406	50,000	n/a	50,000	n/a	Aerial survey
Wolverine Cr.	275-408	2,000	n/a	2,000	n/a	Aerial survey
Humpback Cr.	275-502	35,000	n/a	35,000	n/a	Aerial survey
Humpback Bay Cr.	275-504	5,000	n/a	5,000	n/a	Aerial survey
Alexander Point	275-505	5,000	n/a	5,000	n/a	Aerial survey
Kametolook R.	275-600	500	n/a	500	n/a	Aerial survey
Kametolook (north)	275-601	500	n/a	500	n/a	Aerial survey
District Total		104,000	n/a	104,000	n/a	

Appendix I.5. Pink salmon escapement goal summary for the Western District.

Regulatory Area: Chignik (Area L) – Western District

Stock Unit: Western District index streams

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 61,500

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey (6 systems)

History of Goal: Prior to 1999 district specific pink salmon escapement goals were not published, but annual escapements were compared to recent year counts.

The current Western District pink salmon SEG was derived by area managers employing historical production trends by individual district. Because of the mixed stock nature of the commercial fishery, stream specific escapement goals are untenable.

Component escapement objectives include:

System		Escapement Goal				Enumeration Method
Name	Number	Even Year		Odd Year		
		Lower	Upper	Lower	Upper	
Red Bluff Cr.	273-702	20,000	n/a	20,000	n/a	Aerial survey
Ivan R.	273-722	30,000	n/a	30,000	n/a	Aerial survey
Fishrack Bay	273-723	2,000	n/a	2,000	n/a	Aerial survey
Foot Cr.	273-802	5,000	n/a	5,000	n/a	Aerial survey
Portage Cr.	273-842	2,000	n/a	2,000	n/a	Aerial survey
Castle Cr.	273-941	2,500	n/a	2,500	n/a	Aerial survey
District Total		61,500	n/a	61,500	n/a	

Appendix J.1. Chum salmon escapement goal summary for the Central District.

Regulatory Area: Chignik (Area L) – Central District

Stock Unit: Central District index streams

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 39,500

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey (6 systems)

History of Goal: Prior to 1999 district specific chum salmon escapement goals were not published, but annual escapements were compared to recent year counts.

The current Central District chum salmon SEG was derived by area managers employing historical production trends by individual district. Because of the mixed stock nature of the commercial fishery, stream specific escapement goals are untenable.

Component escapement objectives include:

System		Escapement Goal		Enumeration Method
Name	Number	Lower	Upper	
Neketa Cr.	272-202 b	500	n/a	Aerial survey
Thomp. Cr.	272-204	4,000	n/a	Aerial survey
Hook Cr.	272-302	5,000	n/a	Aerial survey
Rudy's Cr.	272-509	15,000	n/a	Aerial survey
N. Fork Cr.	272-514	10,000	n/a	Aerial survey
New Cr.	272-516	5,000	n/a	Aerial survey
District Total		39,500	n/a	

Appendix J.2. Chum salmon escapement goal summary for the Chignik Bay District.

Regulatory Area: Chignik (Area L) – Chignik Bay District

Stock Unit: Chignik Bay District index streams

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 2,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey (3 systems)

History of Goal: Prior to 1999 district specific chum salmon escapement goals were not published, but annual escapements were compared to recent year counts.

The current Chignik Bay District chum salmon SEG was been derived by area managers employing historical production trends by individual district. Because of the mixed stock nature of the commercial fishery, stream specific escapement goals are untenable.

Component escapement objectives include:

System		Escapement Goal		Enumeration Method
Name	Number	Lower	Upper	
Lake Bay Cr.	271-101 b	1,000	n/a	Aerial survey
Alfred Cr.	271-104	500	n/a	Aerial survey
Through Cr.	271-106	500	n/a	Aerial survey
District Total		2,000	n/a	

Appendix J.3. Chum salmon escapement goal summary for the Eastern District.

Regulatory Area: Chignik (Area L) – Eastern District

Stock Unit: Eastern District index streams

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 93,700

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey (20 systems)

History of Goal: Prior to 1999 district specific chum salmon escapement goals were not published, but annual escapements were compared to recent year counts.

The current Eastern District chum salmon SEG was derived by area managers employing historical production trends by individual district. Because of the mixed stock nature of the commercial fishery, stream specific escapement goals are untenable.

Component escapement objectives include:

System		Escapement Goal		Enumeration Method
Name	Number	Lower	Upper	
Black Cr.	272-604	2,000	n/a	Aerial survey
Aniakchak R.	272-605	30,000	n/a	Aerial survey
Fred Gungus	272-606	1,000	n/a	Aerial survey
West Cr.	272-701	3,000	n/a	Aerial survey
Main Cr.	272-702	6,000	n/a	Aerial survey
Northeast Cr.	272-703	6,000	n/a	Aerial survey
Yantarni Cr.	272-721	6,000	n/a	Aerial survey
Ocean Beach	272-801	5,000	n/a	Aerial survey
Ocean Bch (north)	272-802	3,000	n/a	Aerial survey

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System		Escapement Goal		Enumeration Method
Name	Number	Lower	Upper	
Nakalilok Bay	272-803	3,000	n/a	Aerial survey
Nakalilok R.	272-804	4,000	n/a	Aerial survey
Nakalilok B (north)	272-805	2,000	n/a	Aerial survey
Cape Kuyuyukak	272-902	200	n/a	Aerial survey
Chiginagak River	272-903 a	4,000	n/a	Aerial survey
Chiginagak Bay	272-904	3,000	n/a	Aerial survey
Chiginagak Bay	272-905	2,500	n/a	Aerial survey
Chiginagak Bay	272-906	1,000	n/a	Aerial survey
Port Wrangell Bay	272-921	3,000	n/a	Aerial survey
Agripina Lake	272-961 a	6,000	n/a	Aerial survey
Agripina Slough	272-961 b	3,000	n/a	Aerial survey
District Total		93,700	n/a	

Appendix J.4. Chum salmon escapement goal summary for the Perryville District.

Regulatory Area: Chignik (Area L) – Perryville District

Stock Unit: Perryville District index streams

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 59,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey (7 systems)

History of Goal: Prior to 1999 district specific chum salmon escapement goals were not published, but annual escapements were compared to recent year counts.

The current Perryville District chum salmon SEG was derived by area managers employing historical production trends by individual district. Because of the mixed stock nature of the commercial fishery, stream specific escapement goals are untenable.

Component escapement objectives include:

System		Escapement Goal		Enumeration Method
Name	Number	Lower	Upper	
Smokey Hollow Cr.	275-402	3,000	n/a	Aerial survey
Ivanof R.	275-406	50,000	n/a	Aerial survey
Humpback Cr.	275-502	2,000	n/a	Aerial survey
Humpback Bay Cr.	275-504	2,000	n/a	Aerial survey
Alexander Point	275-505	1,000	n/a	Aerial survey
Kametolook River	275-600	500	n/a	Aerial survey
Kametolook (north)	275-601	500	n/a	Aerial survey
District Total		59,000	n/a	

Appendix J.5. Chum salmon escapement goal summary for the Western District.

Regulatory Area: Chignik (Area L) – Western District

Stock Unit: Western District index streams

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 12,500

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey (6 systems)

History of Goal: Prior to 1999 district specific chum salmon escapement goals were not published, but annual escapements were compared to recent year counts.

The current Western District chum salmon SEG was derived by area managers employing historical production trends by individual district. Because of the mixed stock nature of the commercial fishery, stream specific escapement goals are untenable.

Component escapement objectives include:

System		Biological Escapement Goal		Enumeration Method
Name	Number	Lower	Upper	
Red Bluff Cr.	273-702	2,000	n/a	Aerial survey
Ivan R.	273-722	3,000	n/a	Aerial survey
Fishrack Bay	273-723	500	n/a	Aerial survey
Foot Creek	273-802	1,000	n/a	Aerial survey
Portage Creek	273-842	5,000	n/a	Aerial survey
Castle Creek	273-941	1,000	n/a	Aerial survey
District Total		12,500	n/a	

Appendix K.1. Chinook salmon escapement goal summary for Cinder River.

Regulatory Area: Alaska Peninsula– Northern District, Cinder River Section

Stock Unit: Cinder River

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 1,000 to 2,000 indexed total and peak

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey counts

History of Goal: The point goal was established by averaging 1978-82 indexed escapements. The goal was multiplied by 0.8 and 1.6 to determine the range.

Appendix K.2. Chinook salmon escapement goal summary for Meshik River.

Regulatory Area: Alaska Peninsula– Northern District, Inner Port Heiden Section

Stock Unit: Meshik River

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 2,000 to 4,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey counts

History of Goal: This goal was established using the 1978-92 average escapement. After a point goal was determined, it was multiplied by 0.8 and 1.6 to determine the range.

Regulatory Area: Alaska Peninsula– Northern District, Nelson Lagoon Section

Stock Unit: Nelson (Sapsuk) River

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 3,200 to 6,400

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey counts

History of Goal: This aerial survey goal was established using the 1985-92 average escapement minus the two lowest years (the run had been declining). A point goal was established and multiplied by 0.8 and 1.6 to determine the range.

A counting tower was used until 1985, when budgetary limitations mandated that the tower be closed after the bulk of the sockeye escapement had passed (which is before most of the chinook run has passed). The tower was replaced with a weir in 1989, but it continues to be removed each year prior to the bulk of chinook passage. A weir/tower goal of 4,500 to 9,000 (including a peak count from the David River) was established using the 1978-84 average minus the two highest years. Run sizes were high during this period and the largest escapements may have contained more fish than were needed.

Appendix L.1. Sockeye salmon escapement goal summary for Bear River.

Regulatory Area: Alaska Peninsula– Northern District, Bear River Section

Stock Unit: Bear River

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal:	Early Run:	150,000 to 175,000
	Late Run:	50,000 to 75,000
	Total:	200,000 to 250,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Weir counts

History of Goal: The current escapement goal of 200,000 - 250,000 sockeye salmon to Bear Lake was developed in the late 1960s and early 1970s by area management biologists. It was based primarily upon historic escapement data. From 1960 through 1985, a tower and a partial weir were used to enumerate escapement; a full weir has been in operation since 1986.

The season goal was divided into three segments around 1982 because escapement sometimes greatly exceeded the annual goal early in the season, resulting in continuous fishing during the latter part of the season.

Tagging, age class, and visual observations during 1969-71, indicated that the post-August 5 segment was a separate stock. It appeared that July 16 - August 5 fish spawned along beaches as opposed to the tributary and outlet spawning by other stocks. A 1998 study examining morphology, life history, and genetic traits of the early and late runs of sockeye salmon at Bear Lake concluded the two runs were indeed distinct and separate.

Over the last 10 years, sockeye salmon escapements have ranged from about 305,000 in 1995 to about 606,000 sockeye salmon in 1991. However, total return data to Bear Lake are unavailable because, during the early run, several stocks are harvested concurrently. Late run harvest data are available, and, over the last 10 years, harvests have ranged from 297,000 in 1998 to 1.15 million in 1995.

While historical escapement data indicate that the current escapement goal provides for sustained yield, spawner-recruit data have not yet been analyzed to estimate S_{MSY} . CF intends to review the current early run Bear River SEG and establish a late run BEG in accordance with the EGP and SSFP.

Appendix L.2. Sockeye salmon escapement goal summary for Christianson Lagoon (Unilua Bay).

Regulatory Area: Alaska Peninsula– Northwestern District, Unilua Bay Section

Stock Unit: Christianson Lagoon (Unilua Bay)

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 25,000 to 50,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial surveys

History of Goal: This escapement goal was established in the 1980s based on the visual estimation of spawning ground capacity, taking into consideration what is likely heavy mortality by the large number of bears concentrated on this system.

Appendix L.3. Sockeye salmon escapement goal summary for Cinder River.

Regulatory Area: Alaska Peninsula– Northern District, Cinder River Section

Stock Unit: Cinder River

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 6,000 to 12,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial surveys

History of Goal: This aerial survey goal was established based upon historic counts and observations of apparently limited rearing capacity.

Appendix L.4. Sockeye salmon escapement goal summary for Ilnik River.

Regulatory Area: Alaska Peninsula-- Northern District, Ilnik Section

Stock Unit: Ilnik River

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 40,000 to 60,000 using weir counts

When Ocean River does not flow into Ilnik Lagoon, the weir goal is reduced by 5,000 to 15,000 and the aerial goal by 5,000 to 10,000.

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Weir counts

History of Goal: Aerial surveys were used to estimate Ilnik sockeye escapement prior to 1991 and an aerial escapement goal of 20,000 to 30,000 was established by visual observations of the spawning grounds. This goal was believed to be an underestimate of actual counts. Therefore, when a weir was installed in 1991, the goal was expanded to 40,000 - 60,000.

Appendix L.5. Sockeye salmon escapement goal summary for McLees Lake (Wislow or Reese Bay).

Regulatory Area: Aleutian Islands– Unalaska District, Unalaska Bay Section

Stock Unit: McLees Lake (Wislow or Reese Bay)

Primary Management Division: Commercial Fisheries

Primary Fisheries: Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 4,000 to 6,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey until 2001

History of Goal: This SEG was established in 1993 based on spawning capacity. Until 2001, aerial surveys were used to estimate McLees sockeye escapement. The FWS installed and operated a weir in 2001 resulting in a salmon escapement estimate of 46,000. The 2001 run was unusually large as confirmed by aerial survey.

Appendix L.6. Sockeye salmon escapement goal summary for Meshik River.

Regulatory Area: Alaska Peninsula– Northern District, Inner Port Heiden Section

Stock Unit: Meshik River

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 10,000 to 20,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey

History of Goal: The point estimate of this SEG was set using previous average peak escapements, excluding unusually low and high years. A visual estimate of rearing capacity was also used. The point estimate was multiplied by 0.8 and 1.6 and rounded off to the nearest thousand to establish a range.

Appendix L.7. Sockeye salmon escapement goal summary for Middle Lagoon.

Regulatory Area: Alaska Peninsula– Southwestern District, Morzhovoi Bay Section

Stock Unit: Middle Lagoon (Morzhovoi Lake)

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 16,000 to 32,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey

History of Goal: The point estimate of this SEG was established by using average escapements from the early weir counts (in the 1920s and 1930s) and visual estimates of spawning area and lake capacity. The point estimate of 20,000 was multiplied by 0.8 and 1.6 to determine the range. During 1995 and 1996 a weir was again operated, but has since been discontinued.

Appendix L.8. Sockeye salmon escapement goal summary for Mortensens Lagoon.

Regulatory Area: Alaska Peninsula– Southwestern District, Cold Bay Section

Stock Unit: Mortensens Lagoon

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 3,200 to 6,400

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey until 2001

History of Goal: This SEG was established based on visual estimation of spawning and rearing capacity. Until 2001, aerial surveys were used to estimate Mortensens Lagoon sockeye escapement. The FWS installed and operated a weir in 2001 resulting in a salmon escapement estimate of 4,300. However, the weir was not fish-tight through most of the season; the 2001 season total based on aerial surveys was 9,100.

Appendix L.9. Sockeye salmon escapement goal summary for Nelson River.

Regulatory Area: Alaska Peninsula– Northern District, Nelson Lagoon Section

Stock Unit: Nelson (Sapsuk) River

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 100,000 to 150,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Weir counts

History of Goal: Between 1962 and 1988 a counting tower was employed to monitor escapements. The present escapement goal was established in 1979, based on the number of fish observed in the spawning and rearing areas. Since 1989, this same goal has been used to evaluate escapements counted through a weir.

In recent years, the total run to Nelson River (Sapsuk Lake) has been reconstructed by combining Nelson River escapement estimates and catches from Nelson Lagoon by year and age class. Estimates by age class were assigned to the parent year (brood year) escapement and return-per-spawner (R/S) estimates were calculated by dividing total return by its respective parent year escapement. The total run and R/S estimates calculated for Nelson River can be considered minimums, because harvests of Nelson River fish outside of Nelson Lagoon have not been quantified. A few other minor sockeye salmon systems also drain in to Nelson Lagoon, but these runs are considered minor during most years.

Appendix L.10. Sockeye salmon escapement goal summary for Nelson Lagoon, David's River.

Regulatory Area: Alaska Peninsula– Northern District, Nelson Lagoon Section

Stock Unit: David's River

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 6,400 to 12,800

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey

History of Goal: The point estimate of this SEG was set using previous average peak escapements excluding unusually low and high years. A visual estimate of rearing capacity was also considered. The point estimate was multiplied by 0.8 and 1.6.

Appendix L.11. Sockeye salmon escapement goal summary for North Creek.

Regulatory Area: Alaska Peninsula– Northern District, Black Hills Section

Stock Unit: North Creek

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 4,400 to 8,800

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey

History of Goal: The point estimate of this SEG was set using previous average peak escapements excluding unusually low and high years. A visual estimate of rearing capacity was also considered. The point estimate was multiplied by 0.8 and 1.6.

Appendix L.12. Sockeye salmon escapement goal summary for Ocean River.

Regulatory Area: Alaska Peninsula– Northern District, Inik Section

Stock Unit: Inik Lagoon, Ocean River

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 5,000 to 10,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey

History of Goal: The goal for Ocean River is only applicable during years when it runs directly into the Bering Sea, rather than its normal course through Inik Lagoon.

Appendix L.13. Sockeye salmon escapement goal summary for Orzinski (Orzenoi) Lake.

Regulatory Area: Alaska Peninsula– Southeastern District, Northwest Stepovak Section

Stock Unit: Orzinski (Orzenoi) Lake

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 15,000 to 20,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Weir counts

History of Goal: In 1929, and from 1935 through 1941, and now since 1990 a weir has been used to enumerate the escapement. From 1942 through 1989, aerial surveys were used. A 10,000 to 20,000 aerial survey indexed goal was established in about 1980, by estimating escapements and considering both rearing and spawning area. In 1992, a 15,000 to 20,000 escapement goal was established for weir counts, based upon an assessment of weir counts from 1935 through 1941 and 1990 through 1991 as well as the spawning and rearing potential of the lake.

Appendix L.14. Sockeye salmon escapement goal summary for Sandy River.

Regulatory Area: Alaska Peninsula-- Northern District, Bear River Section

Stock Unit: Sandy River

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial

Biological Escapement Goal: 40,000 to 60,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Weir counts

History of Goal: An aerial indexed total escapement goal of 20,000 to 30,000 was developed in the 1970s, based on visual estimates of spawning grounds. However, since 1994, the goal has been doubled (40,000 to 60,000) to account for more complete counts made by the weir.

Appendix L.15. Sockeye salmon escapement goal summary for Swanson Lagoon.

Regulatory Area: Alaska Peninsula– Northwestern District, Swanson Lagoon Section

Stock Unit: Swanson Lagoon

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 8,000 to 16,000 indexed total

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey

History of Goal: This indexed total escapement goal was established in 1990, based on the visual estimation of spawning area along the south side of Swanson Lagoon, and the number of sockeye that actually use Silver Salmon Creek.

Appendix L.16. Sockeye salmon escapement goal summary for Thin Point Lake.

Regulatory Area: Alaska Peninsula– Southwestern District, Thin Point Section

Stock Unit: Thin Point Lake

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 14,000 to 28,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey

History of Goal: This indexed total escapement goal was determined by visual estimation of spawning ground capacity. Annual counts are made of fish in the lake as well as fish in the lagoon. Management attempts to pass an additional 1,000 fish into the lake above the goal to provide for average levels of subsistence harvest.

Appendix M.1. Coho salmon escapement goal summary for Cinder River.

Regulatory Area: Alaska Peninsula– Northern District, Cinder River Section

Stock Unit: Cinder River

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 3,000 to 6,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial surveys

History of Goal: The average of the 1988 through 1992 indexed total escapements was used to determine a point escapement goal. The point escapement goal was multiplied by 0.8 and 1.6 to determine the range.

Appendix M.2. Coho salmon escapement goal summary for Ilnik River.

Regulatory Area: Alaska Peninsula– Northern District, Ilnik Section

Stock Unit: Ilnik River/Lagoon

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 10,000 to 19,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial surveys

History of Goal: The average Ilnik Lagoon aerial indexed total escapements from 1985 through 1992 were used to establish the point goal. Data from the 1991 escapement (the only year when late-fall surveys were thoroughly conducted on Ilnik spawning grounds) were used to establish a separate goal for Ocean River from the Ilnik River-Willie Creek portion. Some years Ocean River flows into Ilnik Lagoon and during some years flows directly into the Bering Sea. During years when Ocean River doesn't flow into Ilnik Lagoon, the coho salmon escapement goal is 16,000 to 32,000.

Appendix M.3. Coho salmon escapement goal summary for Meshik River.

Regulatory Area: Alaska Peninsula– Northern District, Inner Port Heiden Section

Stock Unit: Meshik River

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 16,000 to 32,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey

History of Goal: This goal was established in 1993 using the 1985 through 1992 average indexed total escapements to determine a point estimate. The point estimate was multiplied by 0.8 and 1.6 to determine the range.

Appendix M.4. Coho salmon escapement goal summary for Mud Creek.

Regulatory Area: Alaska Peninsula– Northern District, Cinder River Section

Stock Unit: Mud Creek

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 6,000 to 12,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial surveys

History of Goal: The average of the 1988 through 1992 indexed total escapements was used to determine a point escapement goal. The point escapement goal was multiplied by 0.8 and 1.6 to determine the range.

Appendix M.5. Coho salmon escapement goal summary for Ocean River.

Regulatory Area: Alaska Peninsula– Northern District, Ilnik Section

Stock Unit: Ocean River/Ilnik Lagoon

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 6,000 to 13,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial surveys

History of Goal: The average aerial indexed total escapements from 1985 through 1992 were used to establish a point goal for the Ilnik River system. Data from the 1991 escapement (the only year when late-fall surveys were thoroughly conducted on Ilnik spawning grounds) were used to establish a separate goal for Ocean River from the Ilnik River-Willie Creek portion. Some years Ocean River flows into Ilnik Lagoon and during some years flows directly into the Bering Sea.

Appendix M.6. Coho salmon escapement goal summary for Nelson River.

Regulatory Area: Alaska Peninsula– Northern District, Nelson Lagoon Section

Stock Unit: Nelson (Sapsuk) River

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 18,000 to 25,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial surveys

History of Goal: Coho indexed total escapements were generally in the 20,000 to 30,000 range when the commercial fishery was intensified during the early 1980s. This goal was reduced slightly to keep the fishery from being over-exploited. The intent was to use this goal until more information could be obtained.

Appendix M.7. Coho salmon escapement goal summary for Thin Point.

Regulatory Area: Alaska Peninsula– Southwestern District, Thin Point Section

Stock Unit: Thin Point Lake

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 3,000 to 6,000

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial surveys

History of Goal: The average indexed total escapement for the several streams draining into Thin Point Lake during 1980 through 1992 were used to establish a point escapement goal for this complex. The point goal was multiplied by 0.8 and 1.6 to set a range. In addition, management generally attempts to increase escapement by about 1,500 fish each year to compensate for subsistence use.

Appendix N.1. Pink salmon escapement goal summary for the Bechevin Bay Section.

Regulatory Area: Alaska Peninsula– Northwestern District, Bechevin Bay Section

Stock Unit: Bechevin Bay Section

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal : Even Year 33,200 to 66,400 (indexed)
Odd Year 2,400 to 4,800 (indexed)

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey (5 systems)

History of Goal: Alaska Peninsula pink salmon escapement goals were calculated by assuming a 21-day stream life of all fish within a stream plus all fish observed in saltwater near the mouth during the last survey of the season. Individual stream objectives were calculated from averages of survey estimates from 1976 through 1991, minus those years in which escapements were obviously too low or too high. Visual appearance (how well seeded the stream appeared) was a factor in adjusting the objective for each stream. The range was determined by multiplying the point goal by 0.8 and 1.6. A total of 5 individual stream escapement objectives were added together to determine the section goal; the goal for Bechevin Bay Section is the only pink salmon goal for the entire Northwestern District.

Component escapement objectives include:

System		Component Escapement Objective				Enumeration Method
Name	Number	Even Year		Odd Year		
		Lower	Upper	Lower	Upper	
Mike's Valley (St. Catherine Cove)	311-60-01	6,000	12,000	400	800	Aerial survey
Anderson's Crcek	311-60-06	4,800	9,600	600	1,200	Aerial survey
Trader's Cove	311-60-07	10,000	20,000	600	1,200	Aerial survey
Warmsprings Bay	311-60-12	1,600	3,200	200	400	Aerial survey
Hungry's Creek	311-60-13	10,800	21,600	600	1,200	Aerial survey
District Total		33,200	66,400	2,400	4,800	

Appendix N.2. Pink salmon escapement goal summary for the Shumagin Islands Section.

Regulatory Area: Alaska Peninsula– Southeastern District, Shumagin Islands Section

Stock Unit: Shumagin Islands

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: Even Year 137,000 to 274,000 (indexed)
Odd Year 137,000 to 274,000 (indexed)

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial surveys (27 systems)

History of Goal: Alaska Peninsula pink salmon escapement goals were calculated by assuming a 21-day stream life of all fish within a stream plus all fish observed in saltwater near the mouth during the last survey of the season. Individual stream objectives were calculated from averages of survey estimates from 1976 through 1991, minus those years in which escapements were obviously too low or too high. Visual appearance (how well seeded the stream appeared) was a factor in adjusting the objective for each stream. The range was determined by multiplying the point goal by 0.8 and 1.6. A total of 27 individual stream escapement objectives were added together to determine the section goal.

System		Component Escapement Objective				Enumeration Method
Name	Number	Even Year		Odd Year		
		Lower	Upper	Lower	Upper	
Apollo Creek Minor	282-10-02	4,800	9,600	4,800	9,600	Aerial Survey
Apollo Creek Major	282-10-03	12,000	24,000	12,000	24,000	Aerial Survey
Apollo Gold Mine (Delarof Harbor)	282-10-11	6,000	12,000	6,000	12,000	Aerial Survey
Squaw Harbor Minor	282-10-14	3,200	6,400	3,200	6,400	Aerial Survey
Squaw Harbor Major	282-10-15	28,000	56,000	28,000	56,000	Aerial Survey
Ben Green Bight-Farm	282-10-16	6,800	13,600	6,800	13,600	Aerial Survey
Humboldt Creek-Popof	282-10-18	800	1,600	800	1,600	Aerial Survey

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System		Component Escapement Objective				Enumeration Method
Name	Number	Even Year		Odd Year		
		Lower	Upper	Lower	Upper	
Salmon Ranch- Popof	282-11-01	2,400	4,800	2,400	4,800	Aerial Survey
Fox Hole-Popof	282-11-03	3,200	6,400	3,200	6,400	Aerial Survey
Coal Harbor West (Zachary Bay 1201)	282-12-01	800	1,600	800	1,600	Aerial Survey
Zachary Bay 1202	282-12-02	800	1,600	800	1,600	Aerial Survey
Zachary Bay 1203	282-12-03	800	1,600	800	1,600	Aerial Survey
Zachary Bay 1204	282-12-04	2,600	5,200	2,600	5,200	Aerial Survey
Zachary Bay 1205	282-12-05	2,600	5,200	2,600	5,200	Aerial Survey
Zachary Bay 1206	282-12-06	1,200	2,400	1,200	2,400	Aerial Survey
Zachary Bay 1207	282-12-07	1,200	2,400	1,200	2,400	Aerial Survey
2nd Stm S. Quartz Pt	282-12-08	400	800	400	800	Aerial Survey
1st Stm S. Quartz Pt	282-12-09	400	800	400	800	Aerial Survey
Zachary Bay 1210 (Coal Harbor East)	282-12-10	800	1,600	800	1,600	Aerial Survey
Pinnacle Point Stream	282-13-04	9,600	19,200	9,600	19,200	Aerial Survey
Unga Spit	280-13-01	200	400	200	400	Aerial Survey
Bay Point	282-13-03	20,000	40,000	20,000	40,000	Aerial Survey
Dry Lagoon	282-13-02	16,000	32,000	16,000	32,000	Aerial Survey
Sanborn Harbor SE Head (North)	282-20-00	2,000	4,000	2,000	4,000	Aerial Survey
Lagoon Lake, Sanborn Head	282-20-03	1,600	3,200	1,600	3,200	Aerial Survey
Head of Sanborn Harbor	282-20-04	8,000	16,000	8,000	16,000	Aerial Survey
Head Falmouth Harbor	282-20-05	800	1,600	800	1,600	Aerial Survey
Section Total		137,000	274,000	137,000	274,000	

Appendix N.3. Pink salmon escapement goal summary for the South Central District.

Regulatory Area: Alaska Peninsula– South Central District

Stock Unit: South Central District

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial

Biological Escapement Goal: None specified

Sustainable Escapement Goal :

Even Year	687,200 to 1,374,400 (indexed)
Odd Year	687,200 to 1,374,400 (indexed)

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey (16 systems)

History of Goal: Alaska Peninsula pink salmon escapement goals were calculated by assuming a 21-day stream life of all fish within a stream plus all fish observed in saltwater near the mouth during the last survey of the season. Individual stream objectives were calculated from averages of survey estimates from 1976 through 1991, minus those years in which escapements were obviously too low or too high. Visual appearance (how well seeded the stream appeared) was a factor in adjusting the objective for each stream. The range was determined by multiplying the point goal by 0.8 and 1.6. A total of 16 individual stream escapement objectives were added together to determine the district goal.

Component escapement objectives include:

System		Component Escapement Objective				Enumeration Method
Name	Number	Even Year		Odd Year		
		Lower	Upper	Lower	Upper	
McGinty's Point	283-70-03	28,000	56,000	28,000	56,000	Aerial Survey
East of Mino Creek	283-70-02	64,000	128,000	64,000	128,000	Aerial Survey
Mino Creek	283-70-01	200,000	400,000	200,000	400,000	Aerial Survey
Coal Bay Main Stream	283-62-05	64,000	128,000	64,000	128,000	Aerial Survey
Coal Bay, Unnamed (6204)	283-62-04	16,000	32,000	16,000	32,000	Aerial Survey
Coal Bay 6203	283-62-03	1,200	2,400	1,200	2,400	Aerial Survey
Coal Bay 6202	283-62-02	2,000	4,000	2,000	4,000	Aerial Survey

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System		Component Escapement Objective				Enumeration Method
Name	Number	Even Year		Odd Year		
		Lower	Upper	Lower	Upper	
Cape Tolstoi	283-62-01	2,400	4,800	2,400	4,800	Aerial Survey
Settlement Point (Creek)	283-63-16	200,000	400,000	200,000	400,000	Aerial Survey
Middle (Humpy/Priest) Creek	283-63-15	52,000	104,000	52,000	104,000	Aerial Survey
Bluff Point	283-64-05	20,000	40,000	20,000	40,000	Aerial Survey
Wolverine Gulch	283-64-07	16,000	32,000	16,000	32,000	Aerial Survey
Entrance (Armies) Creek	283-64-08	16,000	32,000	16,000	32,000	Aerial Survey
Ness Creek	283-64-10	2,400	4,800	2,400	4,800	Aerial Survey
Strm S of Chinaman Lagoon	283-63-04	800	1,600	800	1,600	Aerial Survey
Long John Lagoon East	283-61-05	2,400	4,800	2,400	4,800	Aerial Survey
District Total		687,200	1,374,400	687,200	1,374,400	

Appendix N.4. Pink salmon escapement goal summary for the Southeastern District Mainland.

Regulatory Area: Alaska Peninsula– Southeastern District, Mainland Sections

Stock Unit: Southeastern District Mainland

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial

Biological Escapement Goal: None specified

Sustainable Escapement Goal:

Even Year	425,600 to 851,300 (indexed)
Odd Year	425,600 to 851,300 (indexed)

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial surveys (45 systems)

History of Goal: Alaska Peninsula pink salmon escapement goals were calculated by assuming a 21-day stream life of all fish within a stream plus all fish observed in saltwater near the mouth during the last survey of the season. Individual stream objectives were calculated from averages of survey estimates from 1976 through 1991, minus those years in which escapements were obviously too low or too high. Visual appearance (how well seeded the stream appeared) was a factor in adjusting the objective for each stream. The range was determined by multiplying the point goal by 0.8 and 1.6. A total of 45 individual stream escapement objectives were added together to determine the district goal.

Component escapement objectives include:

System		Component Escapement Objective				Enumeration Method
Name	Number	Even Year		Odd Year		
		Lower	Upper	Lower	Upper	
Near Bluff Point	281-35-07	200	400	200	400	Aerial survey
Boulder Bay	281-35-06	800	1,600	800	1,600	Aerial survey
Fox Bay 3505	281-35-05	800	1,600	800	1,600	Aerial survey
Fox Bay 3504	281-35-04	400	800	400	800	Aerial survey
Fox Bay 3502	281-35-02	5,200	10,400	5,200	10,400	Aerial survey

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System		Component Escapement Objective				Enumeration Method
Name	Number	Even Year		Odd Year		
		Lower	Upper	Lower	Upper	
Island Bay 3408	281-34-08	400	800	400	800	Aerial survey
Island Bay 3407	281-34-07	200	400	200	400	Aerial survey
Island Bay 3406	281-34-06	4,800	9,600	4,800	9,600	Aerial survey
Island Bay 3405	281-34-05	4,800	9,600	4,800	9,600	Aerial survey
Island Bay 3404	281-34-04	200	400	200	400	Aerial survey
Stonehouse	281-34-03	16,000	32,000	16,000	32,000	Aerial survey
Osterback's Creek	281-34-02	8,000	16,000	8,000	16,000	Aerial survey
Granville Bay	281-34-01	1,600	3,200	1,600	3,200	Aerial survey
Stepovak River	281-33-05	12,000	24,000	12,000	24,000	Aerial survey
Big River	281-33-04	1,600	3,200	1,600	3,200	Aerial survey
Louie's Corner	281-33-03	5,200	10,400	5,200	10,400	Aerial survey
2nd Str N Rock Wall (Ramsey Bay)	281-33-02	1,100	2,250	1,100	2,250	Aerial survey
1st Str N Rock Wall (Ramsey Bay)	281-33-01	1,100	2,250	1,100	2,250	Aerial survey
Grub Gulch	281-32-07	24,000	48,000	24,000	48,000	Aerial survey
Clark Bay SW	281-32-05	9,600	19,200	9,600	19,200	Aerial survey
Little Norway	281-32-04	12,000	24,000	12,000	24,000	Aerial survey
Orzinski Bay	281-31-03	22,000	44,000	22,000	44,000	Aerial survey
Windbound Bay	281-20-04	3,200	6,400	3,200	6,400	Aerial survey
Chichagof Bay E Side	281-20-03	6,000	12,000	6,000	12,000	Aerial survey
Chichagof Bay Stream	281-20-02	6,000	12,000	6,000	12,000	Aerial survey
Chichagof Bay W Side	281-20-01	6,000	12,000	6,000	12,000	Aerial survey
West Cove	281-10-04	2,400	4,800	2,400	4,800	Aerial survey
Susie (Suzy) Creek	281-10-03	80,000	160,000	80,000	160,000	Aerial survey
Dorenoi Bay NE River	281-10-02	2,000	4,000	2,000	4,000	Aerial survey
Dorenoi Bay SW	281-10-01	12,000	24,000	12,000	24,000	Aerial survey
San Diego Lagoon & Stream	281-90-04	2,000	4,000	2,000	4,000	Aerial survey
West Side San Diego Bay	281-90-03	2,000	4,000	2,000	4,000	Aerial survey
Rough Beach	281-90-02	32,000	64,000	32,000	64,000	Aerial survey
Swedania Point Stream (Lumber Bay)	281-90-01	24,000	48,000	24,000	48,000	Aerial survey
Coleman Creek	281-80-15	1,600	3,200	1,600	3,200	Aerial survey
Johnson Creek	281-80-14	9,600	19,200	9,600	19,200	Aerial survey
Foster's Camp Creek	281-80-12	400	800	400	800	Aerial survey
Monolith Point Creek	281-80-11	2,000	4,000	2,000	4,000	Aerial survey
Foster Creek	281-80-09	16,000	32,000	16,000	32,000	Aerial survey
Lefthand Bay Kagayan (Lefthand River)	281-80-08	20,000	40,000	20,000	40,000	Aerial survey
Cape Aliaksin, East	281-80-06	8,000	16,000	8,000	16,000	Aerial survey
Cape Aliaksin, Center	281-80-05	2,400	4,800	2,400	4,800	Aerial survey
Cape Aliaksin, West	281-80-04	8,000	16,000	8,000	16,000	Aerial survey
Beaver River	281-70-05	28,000	56,000	28,000	56,000	Aerial survey
Not Smiley's Creek	281-70-04	20,000	40,000	20,000	40,000	Aerial survey
District Total		425,600	851,300	425,600	851,300	

Appendix N.5. Pink salmon escapement goal summary for the Southwestern District.

Regulatory Area: Alaska Peninsula– Southwestern District

Stock Unit: Southwestern District

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal:

Even Year	563,600 to 1,127,200 (indexed)
Odd Year	378,000 to 756,000 (indexed)

Optimal Escapement Goal: None specified

In-River Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial surveys (45 systems)

History of Goal: Alaska Peninsula pink salmon escapement goals were calculated by assuming a 21-day stream life of all fish within a stream plus all fish observed in saltwater near the mouth during the last survey of the season. Individual stream objectives were calculated from averages of survey estimates from 1976 through 1991, minus those years in which escapements were obviously too low or too high. Visual appearance (how well seeded the stream appeared) was a factor in adjusting the objective for each stream. The range was determined by multiplying the point goal by 0.8 and 1.6. A total of 45 individual stream escapement objectives were added together to determine the district goal.

Component escapement objectives include:

System		Component Escapement Objective				Enumeration Method
Name	Number	Even Year		Odd Year		
		Lower	Upper	Lower	Upper	
Dolgoi Harbor, SW	284-51-06	4,800	9,600	4,800	9,600	Aerial survey
Dolgoi Harbor, South	284-51-05	400	800	400	800	Aerial survey
Dolgoi Harbor, NW	284-51-03	400	800	400	800	Aerial survey
(Volcano River)	284-52-09	6,400	12,800	6,400	12,800	Aerial survey
Volcano Sloughs-Center	284-52-07	2,400	4,800	2,400	4,800	Aerial survey

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System		Component Escapement Objective				Enumeration Method
Name	Number	Even Year		Odd Year		
		Lower	Upper	Lower	Upper	
West Spring Holes	284-52-06	16,000	32,000	16,000	32,000	Aerial survey
Stream Guard Creek	284-52-05	800	1,600	800	1,600	Aerial survey
Stub Creek	284-52-04	5,200	10,400	5,200	10,400	Aerial survey
Little Bear Bay	284-52-03	3,200	6,400	3,200	6,400	Aerial survey
Nikolaski	284-52-01	8,000	16,000	8,000	16,000	Aerial survey
Belkofski Village Creek	284-41-01	24,000	48,000	24,000	48,000	Aerial survey
Rocky River	284-42-12	24,000	48,000	24,000	48,000	Aerial survey
Kitchen Anchorage	284-42-10	9,600	19,200	9,600	19,200	Aerial survey
Captain's Harbor	284-42-09	8,000	16,000	8,000	16,000	Aerial survey
Belkofski Bay River	284-42-07	6,400	12,800	6,400	12,800	Aerial survey
Belkofski Bay Beach	284-42-06	2,400	4,800	2,400	4,800	Aerial survey
Belkofski Bay West	284-42-05	6,400	12,800	6,400	12,800	Aerial survey
Indian Head	284-42-03	9,600	19,200	9,600	19,200	Aerial survey
Ram's Creek	284-33-05	14,400	28,800	14,400	28,800	Aerial survey
Lenard Harbor South	284-34-11	8,000	16,000	8,000	16,000	Aerial survey
Delta Creek, Lenard Harbor	284-34-10	8,000	16,000	1,200	2,400	Aerial survey
Barney's Creek	284-34-09	8,000	16,000	8,000	16,000	Aerial survey
Trout Creek	284-34-03	800	1,600	0	0	Aerial survey
Russel Creek	284-34-02	30,000	60,000	1,200	2,400	Aerial survey
Fox Island Anchorage East	284-31-01	24,000	48,000	24,000	48,000	Aerial survey
Fox Island Anchorage Center	284-31-02	4,800	9,600	4,800	9,600	Aerial survey
Fox Island Anchorage West	284-31-03	24,000	48,000	24,000	48,000	Aerial survey
Paw Cape (Deer Island)	284-31-05	3,200	6,400	3,200	6,400	Aerial survey
Southern Creek	284-31-06	80,000	160,000	80,000	160,000	Aerial survey
Eastern Creek	284-31-10	24,000	48,000	24,000	48,000	Aerial survey
SW Bight Creek	284-20-04	5,600	11,200	5,600	11,200	Aerial survey
McGinty's Creek	284-20-03	16,000	32,000	16,000	32,000	Aerial survey
Sandy Cove Stream	284-20-01	6,000	12,000	6,000	12,000	Aerial survey
Near Egg Island	284-11-01	2,800	5,600	5,600	11,200	Aerial survey
Little John Lagoon Stream	284-12-13	3,200	6,400	400	800	Aerial survey
Little John Lagoon S Spit	284-12-12	200	400	0	0	Aerial survey
Cannery Creek	284-12-11	600	1,200	0	0	Aerial survey
(Charlie) Hansen's Creek	284-12-01	28,000	56,000	2,800	5,600	Aerial survey
Deadman's Cove	284-60-08	104,000	208,000	6,400	12,800	Aerial survey
Whalebone Bay	284-60-07	400	800	200	400	Aerial survey
Sankin Bay Creek	284-60-06	2,400	4,800	200	400	Aerial survey
Whirl Point	284-60-05	5,200	10,400	3,200	6,400	Aerial survey
Ikatan River	284-60-04	9,600	19,200	200	400	Aerial survey
Swede's Lake	284-60-03	400	800	200	400	Aerial survey
Ikatan Point	284-60-01	12,000	24,000	400	800	Aerial survey
District Subtotal		563,600	1,127,200	378,000	756,000	

Appendix N.6. Pink salmon escapement goal summary for the Unalaska District.

Regulatory Area: Aleutian Islands – Unalaska District

Stock Unit: Unalaska District

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Sport; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: Even Year 368,000 to 736,000 (indexed)
 Odd Year 91,000 to 182,000 (indexed)

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey (17 systems)

History of Goal: Aleutian Islands pink salmon escapement goals were calculated by assuming a 21-day stream life of all fish within a stream plus all fish observed in saltwater near the mouth during the last survey of the season. Individual stream objectives were calculated from averages of survey estimates from 1976 through 1991, minus those years in which escapements were obviously too low or too high. Visual appearance (how well seeded the stream appeared) was a factor in adjusting the objective for each stream. The range was determined by multiplying the point goal by 0.8 and 1.6. A total of 17 individual stream escapement objectives were added together to determine the district goal.

Component escapement objectives include:

System		Component Escapement Objective				Enumeration Method
Name	Number	Even Year		Odd Year		
		Lower	Upper	Lower	Upper	
Makushin Valley River	302-40-03	25,000	50,000	15,000	30,000	Aerial survey
Nateekin River	302-40-05	75,000	150,000	25,000	50,000	Aerial survey
Captain's Bay (Shaishnikof River)	302-40-06	5,000	10,000	3,000	6,000	Aerial survey
Unalaska Village (Town) Cr.	302-40-08	10,000	20,000	5,000	10,000	Aerial survey
Humpy Cove	302-40-10	8,000	16,000	5,000	10,000	Aerial survey

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System		Component Escapement Objective				Enumeration Method
Name	Number	Even Year		Odd Year		
		Lower	Upper	Lower	Upper	
Skan Bay #2	302-13-06	10,000	20,000	800	1,600	Aerial survey
Humpback #1	302-14-16	75,000	150,000	20,000	40,000	Aerial survey
Humpback #2	302-14-17	20,000	40,000	5,600	11,200	Aerial survey
Glacier Valley	302-14-18	20,000	40,000	800	1,600	Aerial survey
Station Bay West	302-11-04	12,000	24,000	800	1,600	Aerial survey
Station Bay East	302-11-06	16,000	32,000	1,000	2,000	Aerial survey
Chernofski Harbor Cr.	302-11-08	16,000	32,000	1,000	2,000	Aerial survey
Kismaliuk Bay W. Arm	302-12-03	16,000	32,000	1,000	2,000	Aerial survey
Kismaliuk Bay	302-12-04	8,000	16,000	500	1,000	Aerial survey
Kismaliuk Bay East	302-12-05	8,000	16,000	500	1,000	Aerial survey
Kashega Lake System	302-12-07	28,000	56,000	5,000	10,000	Aerial survey
Pumicestone Bay	302-12-11	16,000	32,000	1,000	2,000	Aerial survey
District Total		368,000	736,000	91,000	182,000	

Appendix N.7. Pink salmon escapement goal summaries for the Unimak District.

Regulatory Area: Alaska Peninsula– Unimak District

Stock Unit: Unimak District

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial

Biological Escapement Goal: None specified

Sustainable Escapement Goal: Even Year 51,200 to 102,400 (indexed)
 Odd Year 10,000 to 20,000 (indexed)

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial surveys

History of Goal: Alaska Peninsula pink salmon escapement goals were calculated by assuming a 21-day stream life of all fish within a stream plus all fish observed in saltwater near the mouth during the last survey of the season. Individual stream objectives were calculated from averages of survey estimates from 1976 through 1991, minus those years in which escapements were obviously too low or too high. Visual appearance (how well seeded the stream appeared) was a factor in adjusting the objective for each stream. The range was determined by multiplying the point goal by 0.8 and 1.6. A total of 10 individual stream escapements objectives were added together to determine the district goal.

Component escapement objectives include:

System		Component Escapement Objective				Enumeration Method
Name	Number	Even Year		Odd Year		
		Lower	Upper	Lower	Upper	
Dodd's Bay East	285-10-05	200	400	200	400	Aerial survey
2 mi. S Sanak Village	285-10-06	400	800	400	800	Aerial survey
W Sanak Is. Trinity	285-10-07	3,800	7,600	3,800	7,600	Aerial survey
Washwoman	285-10-08	2,000	4,000	2,000	4,000	Aerial survey

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System		Component Escapement Objective				Enumeration Method
Name	Number	Even Year		Odd Year		
		Lower	Upper	Lower	Upper	
Sandy Bay	285-10-09	800	1,600	800	1,600	Aerial survey
Salmon Bay	285-10-10	1,600	3,200	1,600	3,200	Aerial survey
Dora Harbor - Left	285-50-00	400	800	0	0	Aerial survey
Otter Cove, East	285-40-09	28,000	56,000	800	1,600	Aerial survey
Otter Cove, West	285-40-08	12,000	24,000	400	800	Aerial survey
Lazaref River	285-40-05	2,000	4,000	0	0	Aerial survey
District Total		51,200	102,400	10,000	20,000	

Appendix O.1. Chum salmon escapement goal summary for the Northern District.

Regulatory Area: Alaska Peninsula– Northern District

Stock Unit: Northern District streams

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 119,600 to 239,200 (indexed)

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey (44 systems)

History of Goal: Alaska Peninsula chum salmon escapement goals were calculated by assuming a 21-day stream life of all fish within a stream plus all fish observed in saltwater near the mouth during the last survey of the season. Individual stream objectives were calculated from averages of survey estimates from 1976 through 1991, minus those years in which escapements were obviously too low or too high. Visual appearance (how well seeded the stream appeared) was a factor in adjusting the objective for each stream. The range was determined by multiplying the point goal by 0.8 and 1.6. A total of 44 individual stream escapement objectives were added together to determine the district goal.

Component escapement objectives include:

System		Component Escapement Objective		Enumeration Method
Name	Number	Lower	Upper	
North Creek	313-10-02	1,600	3,200	Aerial survey
Trader Mountain Creek (Russian River)	313-10-06	200	400	Aerial survey
Black Hills Creek	313-10-11	600	1,200	Aerial survey
Caribou River	313-30-02	800	1,600	Aerial survey
Sapsuk (Nelson) River (& Hoodoo Lake)	313-30-03	8,500	17,000	Aerial survey
314-2002	314-20-02	1,200	2,400	Aerial survey
314-2003	314-20-03	2,000	4,000	Aerial survey
Deer Valley	314-20-04	11,200	22,400	Aerial survey
Portage Valley	314-20-05	1,200	2,400	Aerial survey

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System		Component Escapement Objective		Enumeration
Name	Number	Lower	Upper	Method
Grass Valley	314-20-06	12,000	24,000	Aerial survey
Lawrence (Valley) Creek	314-20-07	24,000	48,000	Aerial survey
Mine Harbor	314-20-08	400	800	Aerial survey
Coal Creek	314-20-09	12,000	24,000	Aerial survey
Mud Bay 3004	314-30-04	3,200	6,400	Aerial survey
Mud Bay 3005	314-30-05	2,000	4,000	Aerial survey
Head Creek Right Head	314-30-07	400	800	Aerial survey
Right Head Creek	314-30-09	3,200	6,400	Aerial survey
Left Head Creek	314-30-10	3,200	6,400	Aerial survey
Frank's Lagoon	315-11-01	3,200	6,400	Aerial survey
King Salmon River	315-11-02	800	1,600	Aerial survey
Bear River, Branches & Lake	315-11-02	200	400	Aerial survey
Sandy River & Lake	315-11-01	600	1,200	Aerial survey
Lime Creek	316-10-01	800	1,600	Aerial survey
Unnamed, Cape Seniavin/3 Hills	316-10-02	400	800	Aerial survey
SW Three Hills	316-10-04	200	400	Aerial survey
(Bluff Creeks)	317-20-04	600	1,200	Aerial survey
Meshik River, Main	317-20-07	2,800	5,600	Aerial survey
Braided Creek (King Salmon Creek)	317-20-07 B	1,600	3,200	Aerial survey
Landlocked Creek, Hotsprings	317-20-07 C	400	800	Aerial survey
Plenty Bear Creek	317-20-70 O	4,000	8,000	Aerial survey
Blue Violet Creek	317-20-07 E	1,600	3,200	Aerial survey
Wolf Creek	317-20-07 F	1,600	3,200	Aerial survey
Paddle Creek	317-20-70 A	4,000	8,000	Aerial survey
Waterfall Creek	317-20-07 P	200	400	Aerial survey
Rainbow Creek	317-20-07 R	1,200	2,400	Aerial survey
Shoe Creek	317-20-07 H	2,000	4,000	Aerial survey
Cub Creek	317-20-07 T	200	400	Aerial survey
Unnamed	317-20-07 M	400	800	Aerial survey
Birthday Creek	317-20-08	500	1,000	Aerial survey
Cinder River, Main	318-20-06	800	1,600	Aerial survey
Unnamed	318-20-06 L	200	400	Aerial survey
Ray Creek	318-20-06 K	800	1,600	Aerial survey
Meloy Creek	318-20-06 H	1,200	2,400	Aerial survey
Wiggly Creek	318-20-06 J	1,600	3,200	Aerial survey
District Total		119,600	239,200	

Appendix O.2. Chum salmon escapement goal summary for the Northwestern District.

Regulatory Area: Alaska Peninsula– Northwestern District

Stock Unit: Northwestern District streams

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 223,600 to 447,201 (indexed)

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey (25 systems)

History of Goal: Alaska Peninsula chum salmon escapement goals were calculated by assuming a 21-day stream life of all fish within a stream plus all fish observed in saltwater near the mouth during the last survey of the season. Individual stream objectives were calculated from averages of survey estimates from 1976 through 1991, minus those years in which escapements were obviously too low or too high. Visual appearance (how well seeded the stream appeared) was a factor in adjusting the objective for each stream. The range was determined by multiplying the point goal by 0.8 and 1.6. A total of 25 individual stream escapement objectives were added together to determine the district goal.

Component escapement objectives include:

System		Component Escapement Objective		Enumeration Method
Name	Number	Lower	Upper	
Divide Creek	311-30-06	533	1,067	Aerial survey
Whaleback Mountain Creek	311-30-07	533	1,067	Aerial survey
Christianson Lagoon & Inlet	311-30-08	533	1,067	Aerial survey
Mud Hole (Peterson Lagoon)	311-30-09	1,200	2,400	Aerial survey
Clear Lagoon (Peterson Lagoon)	311-30-10	1,200	2,400	Aerial survey
Emil's River	311-40-01	200	400	Aerial survey
North Creek	311-40-04	1,000	2,000	Aerial survey
Big River	311-50-01	800	1,600	Aerial survey
Swanson Lagoon	311-50-02	6,000	12,000	Aerial survey

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System		Component Escapement Objective		Enumeration Method
Name	Number	Lower	Upper	
Mike's Valley (St. Catherine Cove)	311-60-01	20,000	40,000	Aerial survey
Anderson's Creek	311-60-06	600	1,200	Aerial survey
Trader's Cove	311-60-07	6,800	13,600	Aerial survey
Warm Springs Bay	311-60-12	4,000	8,000	Aerial survey
Hungry's Creek	311-60-13	200	400	Aerial survey
Norma Bay Lakes	312-20-01	200	400	Aerial survey
Mike's Duck Camp	312-20-02	5,600	11,200	Aerial survey
Alligator Hole Center	312-20-03	10,000	20,000	Aerial survey
Alligator Hole East (Third Bridge Creek)	312-20-04	2,400	4,800	Aerial survey
2nd W Frosty Creek (Second Bridge Creek)	312-20-52	1,600	3,200	Aerial survey
Springs S Frosty Creek	312-20-51	2,400	4,800	Aerial survey
Frosty Creek	312-20-05	16,000	32,000	Aerial survey
Outer Marker Lakes	312-20-13	200	400	Aerial survey
Joshua Green River	312-40-01	120,000	240,000	Aerial survey
Moffet Springs Creek	312-40-02	10,800	21,600	Aerial survey
Moffet Creek	312-40-03	10,800	21,600	Aerial survey
District Total		223,600	447,201	

Appendix O.3. Chum salmon escapement goal summary for the South Central District.

Regulatory Area: Alaska Peninsula– South Central District

Stock Unit: South Central District

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 89,800 to 179,600 (indexed)

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey (13 systems)

History of Goal: Alaska Peninsula chum salmon escapement goals were calculated by assuming a 21-day stream life of all fish within a stream plus all fish observed in saltwater near the mouth during the last survey of the season. Individual stream objectives were calculated from averages of survey estimates from 1976 through 1991, minus those years in which escapements were obviously too low or too high. Visual appearance (how well seeded the stream appeared) was a factor in adjusting the objective for each stream. The range was determined by multiplying the point goal by 0.8 and 1.6. A total of 13 individual stream escapement objectives were added together to determine the district goal.

Component escapement objectives include:

System		Component Escapement Objective		Enumeration Method
Name	Number	Lower	Upper	
Settlement Point (Creek)	283-63-16	1,600	3,200	Aerial survey
Bluff Point	283-64-05	5,000	10,000	Aerial survey
Canoe Bay River	283-64-06	64,000	128,000	Aerial survey
Entrance (Amies) Creek	283-64-08	1,600	3,200	Aerial survey
Inner Canoe, South Side	283-64-09	1,600	3,200	Aerial survey
Ruby's (Jackson's) Lagoon	283-63-13	3,200	6,400	Aerial survey
Chinaman Lagoon North	283-63-11	1,280	2,560	Aerial survey
Chinaman Lgn Main	283-63-10	1,280	2,560	Aerial survey
Chinaman Lgn 6309	283-63-09	1,280	2,560	Aerial survey
Chinaman Lagoon South	283-63-06	1,280	2,560	Aerial survey
Lower Chinaman Lagoon	283-63-05	1,280	2,560	Aerial survey
Strm S of Chinaman Lagoon	283-63-04	1,200	2,400	Aerial survey
Long John Lagoon Springs	283-61-04	5,200	10,400	Aerial survey
District Total		89,800	179,600	

Appendix O.4. Chum salmon escapement goal summary for the Southeastern District Mainland.

Regulatory Area: Alaska Peninsula– Southeastern District Mainland Sections

Stock Unit: Southeastern District Mainland

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 98,800 to 197,600 (indexed)

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey (21 systems)

History of Goal: Alaska Peninsula chum salmon escapement goals were calculated by assuming a 21-day stream life of all fish within a stream plus all fish observed in saltwater near the mouth during the last survey of the season. Individual stream objectives were calculated from averages of survey estimates from 1976 through 1991, minus those years in which escapements were obviously too low or too high. Visual appearance (how well seeded the stream appeared) was a factor in adjusting the objective for each stream. The range was determined by multiplying the point goal by 0.8 and 1.6. A total of 21 individual stream escapement objectives were added together to determine the district goal.

Component escapement objectives include:

System		Component Escapement Objective		Enumeration Method
Name	Number	Lower	Upper	
Boulder Bay	281-35-06	800	1,600	Aerial survey
Granville Bay	281-34-01	2,000	4,000	Aerial survey
Stepovak River	281-33-05	20,000	40,000	Aerial survey
Granville Portage	281-33-06	1,200	2,400	Aerial survey
Big River	281-33-04	5,400	10,800	Aerial survey
Louie's Corner	281-33-03	4,800	9,600	Aerial survey

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System		Component Escapement Objective		Enumeration
Name	Number	Lower	Upper	Method
2nd Str N Rock Wall (Ramsey Bay)	281-33-02	2,200	4,400	Aerial survey
1st Str N Rock Wall (Ramsey Bay)	281-33-01	2,200	4,400	Aerial survey
Grub Gulch	281-32-07	10,000	20,000	Aerial survey
Clark Bay SW	281-32-05	1,000	2,000	Aerial survey
Little Norway	281-32-04	1,600	3,200	Aerial survey
Chichagof Bay E Side	281-20-03	2,800	5,600	Aerial survey
Chichagof Bay Stream	281-20-02	2,800	5,600	Aerial survey
Dorenoi Bay NE River	281-10-02	400	800	Aerial survey
Dorenoi Bay SW	281-10-01	2,000	4,000	Aerial survey
West Side San Diego Bay	281-90-03	5,200	10,400	Aerial survey
Coleman Creek	281-80-15	8,000	16,000	Aerial survey
Johnson Creek	281-80-14	5,600	11,200	Aerial survey
Foster Creek	281-80-09	5,600	11,200	Aerial survey
Left hand Bay Kagayan (Left hand River)	281-80-08	5,600	11,200	Aerial survey
Beaver River	281-70-05	9,600	19,200	Aerial survey
District Total		98,800	197,600	

Appendix O.5. Chum salmon escapement goal summary for the Shumagin Islands.

Regulatory Area: Alaska Peninsula–Shumagin Islands Section

Stock Unit: Shumagin Islands

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 7,600 to 15,200 (indexed)

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial surveys (7 systems)

History of Goal: Alaska Peninsula chum salmon escapement goals were calculated by assuming a 21-day stream life of all fish within a stream plus all fish observed in saltwater near the mouth during the last survey of the season. Individual stream objectives were calculated from averages of survey estimates from 1976 through 1991, minus those years in which escapements were obviously too low or too high. Visual appearance (how well seeded the stream appeared) was a factor in adjusting the objective for each stream. The range was determined by multiplying the point goal by 0.8 and 1.6. A total of 7 individual stream escapement objectives were added together to determine the section goal.

Component escapement objectives include:

System		Component Escapement Objective		Enumeration Method
Name	Number	Lower	Upper	
Apollo Gold Mine (Delarof Harbor)	282-10-11	200	400	Aerial survey
Zachary Bay 1203	282-12-03	800	1,600	Aerial survey
Zachary Bay 1204	282-12-04	800	1,600	Aerial survey
Zachary Bay 1205	282-12-05	800	1,600	Aerial survey
Bay Point	282-13-03	4,000	8,000	Aerial survey
Dry Lagoon	282-13-02	200	400	Aerial survey
Lagoon Lake, Sanborn Head	282-20-03	800	1,600	Aerial survey
Section Total		7,600	15,200	

Appendix O.6. Chum salmon escapement goal summary for the Southwestern District.

Regulatory Area: Alaska Peninsula– Southwestern District

Stock Unit: Southwestern District streams

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial; Subsistence

Biological Escapement Goal: None specified

Sustainable Escapement Goal: 133,400 to 266,800 (indexed)

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial survey (23 systems)

History of Goal: Alaska Peninsula chum salmon escapement goals were calculated by assuming a 21-day stream life of all fish within a stream plus all fish observed in saltwater near the mouth during the last survey of the season. Individual stream objectives were calculated from averages of survey estimates from 1976 through 1991, minus those years in which escapements were obviously too low or too high. Visual appearance (how well seeded the stream appeared) was a factor in adjusting the objective for each stream. The range was determined by multiplying the point goal by 0.8 and 1.6. A total of 23 individual stream escapement objectives were added together to determine the district goal.

Component escapement objectives include:

System		Component Escapement Objective		Enumeration Method
Name	Number	Lower	Upper	
(Volcano River)	284-52-09	14,000	28,000	Aerial survey
Volcano Sloughs-Center	284-52-07	12,000	24,000	Aerial survey
West Spring Holes	284-52-06	1,600	3,200	Aerial survey
Stream Guard Creek	284-52-05	400	800	Aerial survey
Little Bear Bay	284-52-03	2,000	4,000	Aerial survey
Belkofski Village Creek	284-41-01	200	400	Aerial survey

-Continued-

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System		Component Escapement Objective		Enumeration
Name	Number	Lower	Upper	Method
Captain's Harbor	284-42-09	200	400	Aerial survey
Belkofski Bay River	284-42-07	32,000	64,000	Aerial survey
Ram's Creek	284-33-05	200	400	Aerial survey
Head King Cove Lagoon	284-33-04	1,600	3,200	Aerial survey
W Side King Cove Lagoon	284-33-03	200	400	Aerial survey
Delta Creek, Lenard Harbor	284-34-10	12,000	24,000	Aerial survey
Bamey's Creek	284-34-09	600	1,200	Aerial survey
Trout Creek	284-34-03	200	400	Aerial survey
Russel Creek	284-34-02	28,000	56,000	Aerial survey
Old Man's Lagoon Stream	284-32-01	2,000	4,000	Aerial survey
Sandy Cove Stream	284-20-01	16,000	32,000	Aerial survey
Near Egg Island	284-11-01	600	1,200	Aerial survey
Little John Lagoon Stream	284-12-13	8,000	16,000	Aerial survey
Little John Lagoon S Spit	284-12-12	400	800	Aerial survey
Cannery Creek	284-12-11	200	400	Aerial survey
Sankin Bay Creek	284-60-06	200	400	Aerial survey
Ikatan River	284-60-04	800	1,600	Aerial survey
District Total		133,400	266,800	

Appendix O.7. Chum salmon escapement goal summary for the Unimak District.

Regulatory Area: Alaska Peninsula– Unimak District

Stock Unit: Unimak District

Primary Management Division: Commercial Fisheries

Primary Fisheries: Commercial

Biological Escapement Goal: None specified

Sustainable Escapement Goal Biological Escapement Goal: 800 to 1,600 (indexed)

Optimal Escapement Goal: None specified

Inriver Goal: None specified

Action Points: None specified

Escapement Enumeration Method: Aerial surveys (3 systems)

History of Goal: Alaska Peninsula chum salmon escapement goals were calculated by assuming a 21-day stream life of all fish within a stream plus all fish observed in saltwater near the mouth during the last survey of the season. Individual stream objectives were calculated from averages of survey estimates from 1976 through 1991, minus those years in which escapements were obviously too low or too high. Visual appearance (how well seeded the stream appeared) was a factor in adjusting the objective for each stream. The range was determined by multiplying the point goal by 0.8 and 1.6. A total of 3 individual stream escapement objectives were added together to determine the district goal.

Component escapement objectives include:

System		Component Escapement Objective		Enumeration Method
Name	Number	Lower	Upper	
Otter Cove, East	285-40-09	200	400	Aerial survey
Otter Cove, West	285-40-08	400	800	Aerial survey
Lazaref River	285-40-05	200	400	Aerial survey
District Total		800	1,600	

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